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Au revoir!

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Michel Ancel is on the run from industry traditions

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Livingstone named Development Legend

Respected UK games industry figure will take key prize at July 20th Develop Awards ceremony

by Michael French

IAN LIVINGSTONE will receive the top Development Legend honour at next month's Develop Awards.

He joins a list of esteemed former recipients of the award, which has been given to Peter Molyneux, David Braben, Charles Cecil, the Gower brothers and Phil Harrison.

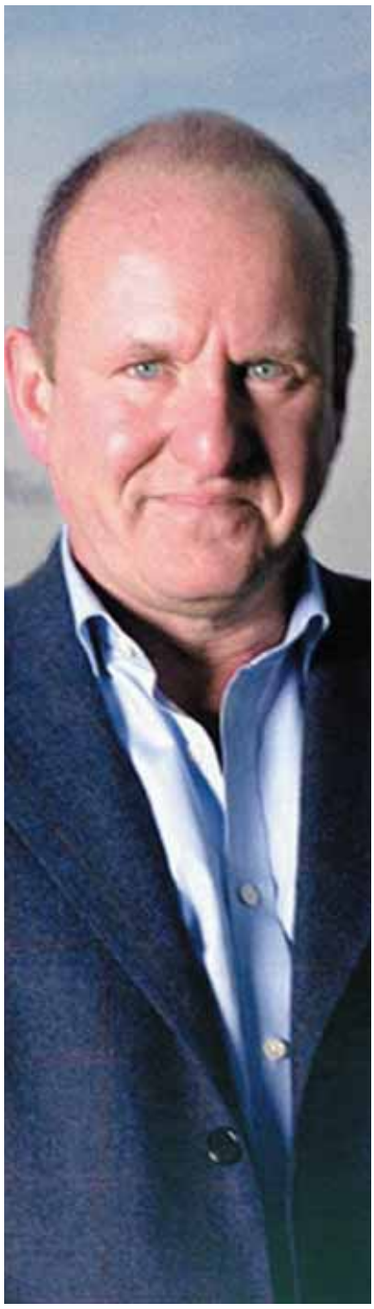
The award acknowledges a raft of work done to support games developers and the video games industry across a career lasting over 35 years so far, and will be presented at a ceremony on the evening of July 20th at the Hilton Metropole Hotel in the coastal city of Brighton.

Livingstone is one of the most respected figures in the industry: he co-founded Games Workshop, nurtured major franchises including *Tomb Raider*, has invested in numerous successful new independent studios, and is a key advisor to the Government on games-relevant issues such as finance and education.

Livingstone commented: "I'm very fortunate to have been part of the UK games industry for over 35 years. To receive this coveted Award is a genuine honour. Recognition by the development community is particularly satisfying and I am very grateful. Thank you to all in the *Develop* team."

The Development Legend award is sponsored by Babel Media. Other Develop Awards sponsors include Crytek, Amiqus, gamecity:hamburg, OPM, Nova Scotia Business International, Imagination Studios, Supermassive Games, Fmod and MPG Universal.

To book a place at the awards, contact Kathryn.Humphrey@intentmedia.co.uk or call +44 (0)1992 535 646.



BIO: IAN LIVINGSTONE

Livingstone co-founded iconic games company Games Workshop in 1975, launching *Dungeons & Dragons* in Europe, and subsequently its retail chain and White Dwarf magazine.

In 1982 Livingstone, together with Games Workshop co-founder Steve Jackson, created the best-selling role-playing games book series, *Fighting Fantasy*, which has sold over 16 million copies to date.

He made the leap to computer games two years later, designing *Eureka*, the first title released by publisher Domark in 1984. He returned to the company in the early '90s as a major investor overseeing a merger that created Eidos Interactive, where he was Chairman for seven years. At Eidos he helped secure and bring to market some of its most famous properties including *Lara Croft: Tomb Raide*r and *Hitman*.

Livingstone became Life President of Eidos for Square Enix, which bought the publisher in 2009, and has creative input in all the Eidos-label games.

He is an active supporter of new and upcoming games talent, having invested in Indie studios including Playdemic, Appatyze and Mediatonic. He is also sits on many boards including trade body UKIE, industry charity GamesAid, Skillset games council, BAFTA games committee, the Creative Industries Council and is an advisor to the British Council.

Earlier this year, he co-authored the NextGen report for the government urging changes in education policy to assist the UK games development industry.

Editorial

A NEW WAY OF THINKING

YOU CAN count on one hand the number of people that have graced *Develop*'s cover more than once. Only rarely are there those with the career or the vision to warrant a second time in the spotlight.

Michel Ancel's first *Develop* cover was titled 'Bonjour Mainstream', heralding his surprising switch to making Ubisoft's *King Kong* movie tie-in.

This was a famed designer sipping from the poisoned chalice: the licensed game. Ancel went even further into the casual space by creating the Rabbids, spin-off characters from *Rayman* that today adorn lunchboxes in his home country of France thanks to success on Wii.

He's back now with a revamp of *Rayman*. But at the same time, he's running away from industry convention, rejecting over-managed projects by building a development culture that puts artists first, and offers new, nimble technology. I'd love to have been a fly on the wall when he told CEO Yves Guillemot that the innovative UbiArt engine he was building to make all that possible will also eventually be made open source.

Ancel's democratic way of thinking may seem very French, very Ubisoft, and very 'not for everyone'. But in an age where big-name designers are more and more PR showhorses to trot out at trade shows like GDC and E3, it is refreshing to find one who wants to make the creation of his games as rewarding and refreshing as the games themselves.

***

AS WE go to press, news is breaking of Zynga's planned IPO. Supposedly, with an initial market offering of up to $2bn in stock, the firm will be worth $20bn. Staggering.

A lot of developers hate Zynga. It's 'evil'. Its games aren't original. It sits on another dotcom bubble.

But whatever your view on Zynga, remember this – it *is* a games developer. It's not a publisher, not in the traditional sense and not in the new sense of helping bring other people's products to digital markets. Zynga may have scaled up ridiculously quickly (14 studio acquisitions in 12 months), but all its games it either made itself or brought in-house.

No, I can't tell you if they'll still be around in five years. But even if Zynga itself isn't the future of our industry, what it represents is. You'd be foolish to dismiss it.

Michael French
michael.french@intentmedia.co.uk

'Our most devel

Sony insists PS Vita will make the development of games easier

by Will Freeman

SONY SAYS the Vita is the easiest PlayStation platform to develop games for yet.

According to several of the Sony top brass involved in conceiving and creating the handheld formerly known as the NGP, the more welcoming development environment trumps that offered by any previous Sony gaming platform.

Speaking with *Develop*, SCE Worldwide Studios boss Shuhei Yoshida admitted that previously Sony gaming platforms had been what he described as 'peaky', testing even the best of developers.

Speaking of the pre-Vita Sony platforms, Yoshida conceded: "It had very, very high potential and peak performance, but programming for the PlayStation platforms was a huge challenge for game developers.

Yoshida, may joke that creating powerful platforms that were difficult to develop for is a "Sony tradition", but that's because 'father of Playstation' Ken Kutaragi liked to push the abilities of game studios, he revealed.

"In a sense Ken was enjoying challenging game developers," said Yoshida. "He was especially challenging the top programmers in the world to come up with something amazing to make use of the performance of each iteration of the PlayStation platforms.

"That was very good – it was great – for the teams with engineers who liked the challenge, but the world has now changed, and today there is a much larger community of developers," added Yoshida. "The focus has shifted to be less about getting the most out of the hardware, to be about having a very smooth production process. That's because now it involves so many more people to make one game."

The Sony executive added that the shift of focus was particularly relevant for those third-party publishers which are charged with making sure developer's games work across multiple platforms.

> ***"As an industry, we have to support those smaller teams, and let them try out their ideas. Without doing so, the whole industry will stall, in terms of innovation."***
>
> Shuhei Yoshida, SCE Worldwide

"Development efficiency has become more and more important," said Yoshida.

The SCE WWS head was not the only Sony senior to make clear to *Develop* that relative simplicity of development has been a core focus in creating the Vita.

"When it comes to ease of development, the Vita is a platform with which we've been very mindful of that," stated Michael Denny, senior vice president of SCE Worldwide Studios. "In terms of smoothing the development process, certainly what the Vita offers is close to that of the PSP, and with

oper friendly device yet'

than ever before, and usher in a new chapter for innovation at studios large and small

SCE Worldwide Studios SVP Micahel Denny (left) is, along with his boss Shuhei Yoshida (below) confident that the PS Vita and its development environment offers studios an unparralled ease of use

some of the help we're giving to developers, I would say it is the easiest and most well supported platform yet.

"In terms of performance, and the graphics power and programmable shaders and so on, what you can get out of it is far closer to PS3. It's a great contrast of ease of development to the output you get from the system."

WWS CTO Richard Lee confirmed Denny's assertion that ease of development was fundamental to the Vita's design.

"We made every effort to make it as easy as possible," said Lee. "I think we took the experiences from PS3, and decided that we wanted to go out there with a great developer environment that is compatible with the third party tools that developers normally use.

There's never been anything like this on a PlayStation platform. It is a great development environment, and the stuff that is available before launch is really good in terms of helping developers with performance tuning an so on."

Denny said that Sony providing a number of special APIs and libraries for the Vita's newer features, such as the rear touch pad, was evidence of the company's efforts to make the platform as studio-friendly as possible.

Yoshida also told *Develop* that making the Vita easier to create games for was a reflection of changing development sector: "As an industry, we have to support those smaller teams, and let them try out their ideas. Without doing so, the whole industry will stall, in terms of innovation.

"Having the capability to sell their games on the network is key to giving those smaller teams an opportunity to come up with ideas, and sometimes invest their own money to come up with something special and have their projects meet with millions of users."

Yoshida insisted that those looking to make the likes of boutique and indie games would find the Vita accessible to them.

"From the beginning we wanted to make game development for the Vita an easier experience," he claimed.

"Because Vita has capability to do wholly touched-based or AR-based games, lots of things can be done using just a small portion of the technology. We made it so the development kit wouldn't be too expensive. It is small and light and easy for developers to handle."

SONY ON THE Wii U

SCE Worldwide Studios boss Shuhei Yoshida is closely watching Nintendo's recently announced Wii U, and says the new console will likely inspire PS Vita developers to carry out experiments with the newly named Sony handheld.

"It is very interesting the ways that Nintendo went with Wii U, and I was surprised it wasn't exactly as it had been rumoured," Yoshida told *Develop* at E3.

"Already people are starting to ask about linking Vita and PS3 to do something similar, in terms of using two screens, and having controls on the screen.

"That's very interesting, and we will have to experiment," he added, before suggesting that such work was already, to a certain extent, underway.

"Lots of the things that developers of Vita games are doing, as you may have seen, is experimenting with connectivities between Vita and PS3.

"The *Wipeout [2048]* team came up with their CrossPlay ideas, and the other Vita teams have come up with ways of playing with two systems. It's just a matter of time, as we provide the SDKs to developers so they can make use of both PS3 and Vita, and they might come up with something interesting."

INFINITE WISDOM

Bioshock Infinite (top and far right) is the result of a company that is 'hard on ideas', says Timothy Gerritsen, director of product development (above)

***BioShock Infinite* isn't strictly a sequel or prequel. How did that come about?**
We are certainly really fortunate to be in a position to work on this title. After *BioShock* we felt like we had finished with Rapture. We didn't want to do another Rapture, but we weren't done with *BioShock*.

A typical response to that from most publishers would probably have been 'lets do *BioShock 3* quickly and ship it out', but we had all these crazy ideas for new things, but early on they hadn't quite gelled. Still, we had the vision of the *Infinite* world.

Our publisher said to us we could run with it, and that they totally trusted us, and gave us the creative freedom we needed to do something unique.

That was great for us. Particularly because, as a studio Irrational is super-intense and ideas focused. I've never worked at a studio so intense. Irrational is also hard on ideas, and that's important.

What exactly do you mean by being 'hard on ideas'?
We have this crucible of ideas. If you bring an idea to the fore, you have to really do your homework. You have to think about it, you have to know how the player is going to relate to the idea and, how they are going to play with it.

We kill bad ideas regularly, and it honestly doesn't matter who comes up with the idea. We use the phrase 'killing our babies' here at Irrational. We don't have ideas that we get married to, because if it doesn't work, we kill it and it's gone.

If someone was to ask 'who thought of that fucking terrible idea' and the answer was 'it was Ken's [Levine, Irrational creative director] idea', we don't care. If it's a bad idea, we fucking kill it. We are very hard on ideas, and that's because at the end of the day we're about making games that people can get behind and enjoy

We also have to really fight hard to make sure everyone on the team understands that you have to look at it as a player. You can't look at it as a jaded developer. Just look at it as a game.

> ***"Young designers at other companies today look at game design in a very academic fashion. They forget to consider how the player will be made to feel."***
>
> Timothy Gerritsen, Irrational

If Irrational is a studio where you are hard on everybody's ideas, does that mean that – to an extent – you are a studio without a hierarchy?
Oh, there's a hierarchy alright.

But it sounds like quite a democratic company culture in that regard.
It's not at all like that. Well, maybe it is. Everybody in the company has the same support and the same right to bring in ideas, but Ken is the creative visionary and directs the vision. Ultimately, though, we don't care who you are. If you have a good idea and you've thought about it, you can get that idea in the game. But that doesn't mean anything if you haven't thought about it and your idea is bullshit.

We're tough on creativity, and there's truly a maelstrom of ideas at Irrational. But yes, anybody has the chance.

So there's that hierarchy you mentioned. How important is that?
It's the studio that Ken Levine built, so that's not going to change. And he has such a clear vision. If he has this idea of this city and floating islands we've got to make it happen. But he can have an idea and anyone here can argue that it's wrong.

Ultimately, though, Ken is the creative lead. The guy has this amazing ability to distil concepts down and understand what the player will feel. He knows how the audience will react, and it's what we always think about. Ken also always sees the game. He sometimes likes to reminds us that an idea might be great for the novelisation, but we have to think about the player playing the game.

I think so many young designers at other companies today look at game design in a very academic fashion, and they forget that if the audience can't play, they've failed as a designer. Those designers will talk about the order of events, and the position of objects and enemies, but they forget to consider how the player will be made to feel. If you ask them 'how does the player feel?', and they don't have an answer, you might not be the right designer. We have a lot of guys here at Irrational with a lot of experience who understand that process, but, truly, a lot of

With BioShock Infinite, Irrational Games might just exceed the quality bar set by the first game. **Will Freeman** asks director of product development Timothy Gerritsen how production is going

the younger designers need reminding that they're not making a novel.

It can't just be about creative toughness though – that being hard on ideas can only get you so far. What else about the studio's culture defines the games you make?
For a start, we're really thorough when we hire people. It's kind of amazing really. We've had a couple of slots for new hires for a really long time, but we are really picky. And then, at the same time, we're trying to get this game done. But we won't just hire anybody. We don't have a 'bums in seats attitude'. We want people who are as captivated by what we do, and the tiny details, as we are. We want people who are prepared to do the research.

And that's important too. We immerse ourselves. If we're making a game set in a 1912, we immerse ourselves in that period. We learn the science, we read the literature, we listen to the music; everything about a period, we loose ourselves to. We don't just come up with the adverts in the *BioShock* games; those ads are based on advertising from the age. We learn about the fonts and art and architecture of the era, and all that will come across. *BioShock infinite* is all about the early ideas of Heisenberg and Einstein and their new understanding of the physical world. We even looked at the medicines of the time, and how they were made.

Is this a different interpretation of the 'historical accuracy' approach to game design then?
It's not historical accuracy, because it's a made up world, but authenticity is really important to us. Let's talks about streets in video games.

OK. Tell me about video game streets.
I hate video game streets, where a street will happen to have a reality where all this action is going to take place. I hate that.

If you're going to make a street it needs to feel real, and have a real market and people living in there living convincing lives. I want to know how they'll move about, and if there's a way for them to get to their apartment from the sidewalk, and a reason for an alley to be where it is.

> ***"We immerse ourselves. If we're making a game set in 1912, we immerse ourselves in that period. We learn the science, we read the literature."***
>
> Timothy Gerritsen, Irrational

You have to stop with that level of detail somewhere though.
I admit you can get lost in that detail, but we expect that of everyone in our building. That's our purpose at Irrational. Let's pick something random. Let's say you're making a dockyard. You better know what a dockyard looks like in exactly the time period you're in, and know who occupied that dock yard and understand the myths and habits of the time.

So we can certainly end up debating quite seriously about a floor tile at Irrational. If you're getting to that level, you're doing the right thing. But we're always also focused on getting the job done, and getting the game out there. It's a struggle, but that's what you've got to do to hit the quality bar.

I wanted to move onto your approach to technology. You're working with a heavily modded version of the Unreal Engine 3. Can you tell me about that?
Previously for *BioShock* we'd previously used a '2.5' of the Unreal Engine, and it was a good engine. You've played *BioShock*, so you know it's no slouch. For *Infinite* though, we wanted this floating world, and something so much more open, so we needed very specific, different technology.

For that reason, for the lighting, to be able to do the things we wanted to, we built our own hyper-deferred lighting tech that allows us to do really nice day-lit work.

What we get from Epic is a core technology, and we see it as a great place to build our own extension tools. UE3 is great on it's own, and it allows you to make great games like *Gears of War*.

We wanted to give our games their own feel though, so we built our own tools; tools that would allow us to have a giant floating city. I don't know if you know, but giant floating objects kill framerate, so we had to build own 'Floating Worlds' technology.

So you're hard on technology as well as your ideas?
Absolutely. We have a strong art team, a strong design team and a strong programming team. They are all very strong, but they are also very realistic. They're hard on ideas, but they're also very creative, and sometimes they suggested things that have been developed in our tech. It's the same creative process. The programming team were the ones who came up with the idea of this floating city. Everybody at Irrational can input good ideas into everything.

What is your response to the Wii U?
It's early days, and we're still trying to get our heads around it. We're always experimenting with new ideas and we're always interested in new platforms. We're really excited about the Wii U, but it's too early to say what we'll do with it. I think, like any new piece of hardware, it creates new challenges and opportunities. We see it as an interesting idea, but where we're at is that we don't know whether the different elements will work or not. Certainly, we're looking at it, but as to whether we're going to do anything with it, I don't know.
www.irrationalgames.com

ANATOMY OF A BLOCKBUSTER

Our monthly dissection of a recent hit game...

L.A. Noire

PUBLISHER: Rockstar Games
DEVELOPER: Team Bondi
FORMAT: PC/Mac, PS3, Xbox 360
PRICE: £34.99 – £49.99
www.rockstargames.com

THE SENSATION

When Allied troops returned home at the end of the Second World War, they found that civilian life had changed entirely in their absence. Women had proven themselves more than capable of performing jobs previously unavailable to them. The criminal underworld had flourished under the cover of international conflict. The economies of the world's major financial powers were in ruins. For many, the real hardships came after the guns had been silenced.

It was to this new world that a new type of fiction was born. One of stark cynicism, mean men and cold women. Of fog and smoke, and the glint of a pistol in the dark. Noir embodied the fears and confusion of post-war society, and it produced some of the most iconic and entertaining stories ever told. Multi-layered and wildly bleak, it was a genre that, in its purest form, had long remained absent from videogames. Then, in 2003, Team Bondi set up shop in Australia.

THE GAME

Built around the gameplay model of the *Grand Theft Auto* series, *L.A. Noire* is a significant shift in gear to its spiritual predecessor. Taking on the role of L.A.P.D. Detective Cole Phelps, players walk and drive around a meticulous recreation of Los Angeles circa 1947, taking care to go about their crime-solving within the confines of the law. Mowing down pedestrians is out, chasing down criminals through back alleys is in. Stealing jetpacks is out, collating evidence from crime scenes and building cases against a list of potential suspects is in. Layered on top is detailed facial animation, so suspects' little expressions shine a light on the line between lies and the truth.

L.A. Noire is a game inspired by a wealth of source material, and a time and place stuck firmly in the collective consciousness. You hardly even need the game's tutorial missions. You've known how to play it since you saw *L.A. Confidential*.

THE STUDIO

When new Australian studio Team Bondi began work on its first game in 2003, the idea was quickly picked up by SCEA, and PlayStation exclusivity was secured.

Five years later, the game changed hands to Rockstar Games, which confirmed it was working with Team Bondi on *L.A. Noire*, a PS3 exclusive, period GTA clone set for release in 2008. Expectation and excitement flourished.

A slip of the tongue on a conference call and a financial disclosure later, and the project was a PS3 and Xbox 360 game delayed until 2009. It was also, however, starting to look like an interesting, cerebral third-person title. In early 2010, it was officially revealed and a final launch date was set. Team Bondi's long development was complete, and years of anticipation were about to be met head on.

UNIQUE SELLING POINT

MotionScan. The manner in which Depth Analysis' facial animation technique captures the entirety of an actor's performance is of huge importance to the game.

In a dark interview room a man professes his innocence after the gruesome murder of his wife. You think he's lying. Size eight boot prints were found at the scene of the crime and when you arrested him, he was burning size eight boots. The man looks away and gulps. It's his tell, you caught it earlier when you interviewed him at home. Charge him.

WHY IT WORKS

Certain cultural tropes appeal across age, gender, class and national barriers. Every major international centre of film had its own Noir period. The archetype of the fedora-wearing anti-hero struggling to save a girl who doesn't want saving speaks in a way that goes beyond explanation. It's just really cool.

Getting to be that anti-hero and taking on a vast, complex and ubiquitous conspiracy that holds the entire city of Los Angeles in a choke-hold is really, really cool.

TRY IT YOURSELF

L.A. Noire succeeds because of its willingness to build on the expectations of Noir that already exist, while remaining entirely faithful to its source material. Leaps of in-game perspective and the power of historical hindsight are exploited for memorable dramatic or comic effect: "Next you'll be telling me Nixon's a crook!"

In transplanting such a loaded canon of material into a game format, Team Bondi understood that they had to find the threads that ran from 1947 Los Angeles to the 2011 international videogames community.

And it's a method that will work again. Ask yourself, how does Victorian adventure fiction relate to people today? What about the Golden Age of comics? What does the Russian existentialist movement really mean to 2011?

Playground Games

LOOK WHO'S JUST JOINED THE TEAM...

DEREK CHAPMAN
SENIOR ENVIRONMENT ARTIST
JOINED FROM BIZARRE CREATIONS

CRAIG O'HANLON
IT INFRASTRUCTURE ENGINEER
JOINED FROM BIZARRE CREATIONS

JOHN LILLEY
SENIOR ENVIRONMENT ARTIST
JOINED FROM SLIGHTLY MAD STUDIOS

SCOTT TOWNE
SENIOR GAMES DESIGNER
JOINED FROM EA CANADA

TOMAS BLAHO
SENIOR RENDERING ENGINEER
JOINED FROM 2K CZECH

RENEE HARRIS
OFFICE MANAGER
JOINED FROM FREESTYLE GAMES

GAVIN BARTLETT
ASSOCIATE ART DIRECTOR
JOINED FROM SLIGHTLY MAD STUDIOS

WILL STONES
LEAD ONLINE ENGINEER
JOINED FROM CODEMASTERS

ROSS GARFOOT
ENVIRONMENT ARTIST
JOINED FROM ESCAPE STUDIOS

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Senior UI Artist
UI Artist

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Senior Gameplay Engineer
Senior Online Engineer
Senior Physics Engineer
Senior Rendering Engineer
Senior Tools Engineer
Senior UI Engineer

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//COMMENT: BUSINESS

Show gamification love

by **Rick Gibson**, Games Investor Consulting

Foursquare proves just how far gamification can go, turning movement into a game

TO FIND an example of how deeply games are influencing our culture, look no further than gamification, which is rapidly spreading into multiple, highly disparate industries. Gamification is being used to persuade us to watch more television, drink more coffee, brush our teeth more frequently, join the army, and even educate our kids more effectively. Is there a real market there or is it just hype?

Gamification is patently not about turning something non-games related into an entire game – that's the domain of serious games (and, as I'll argue, its fatal flaw). Gamification cherry-picks discrete elements of games – gameplay mechanisms, community-building principles, marketing methods, analytics – and applies them outside of games.

A CASE IN POINTS

This vibrant new sub-sector of games would not exist without the disciplined genius of designers, who have defined the market to date and loudly debate extrinsic and intrinsic rewards, the evils and impending doom of pointsification (snap), and the proper/improper use of games design.

This noisy debate sometimes looks equally about ownership as design principles, perhaps the consequence of gamification slipping from the control of designers (who are essential for gamification to be compelling) and into the hands of the marketers (who are arguably essential for gamification to spread far and wide). The marketers are best characterised by gamification companies like Bunchball and Bigdoor, around a score of whom have sold white label gamification layers to blue chip giants like FMCG and food manufacturers, TV and mobile networks.

While the marketers can be accused of rinsing and repeating off-the-shelf systems based on points, rewards and leaderboards, they have introduced disciplines essential for the growth and commercial success of gamification. They've taken tips from casual games communities, which have evolved highly sophisticated marketing methodology and incubated huge games communities targeting specific demographics. They have learned from social network gaming, utilising social graphs, iterative development and virtual goods. The best embed the analytics that underpin many online games to ensure they deliver stuff audiences actually use.

> ***"Gamification is not turning something non-game related into a game. It cherry-picks discrete elements of games and applies them outside of games."***

ONE FOR SORROW?

This magpie-like approach is one reason why gamification is not simply the latest incarnation of the serious games industry, which typically builds whole games for non-entertainment purposes. Serious games have failed when bolted onto inappropriate subject matter. One example is the UK Department of Transport's ill-judged $4m bet on a fully-loaded fantasy MMORPG designed to encourage crossing the road safely. That car crash was predictable.

The other crucial difference is that gamification can scale when, arguably, most serious games cannot. Excluding brain training, fitness games and some military applications, most serious games have not progressed from academic case studies with a few thousand users to large scale usage. The 'whole game' approach with its roots in boxed product development may well be the thing to blame.

When pitching entire, substantial games on single subjects to non-games clients like governments, serious games companies are effectively asking deeply risk-averse organisations to bet on potentially short-term hits as if they were risk-aware games publishers. With apparently few willing to repeatedly fund such punts, this has resulted in a consistently low-value market.

Gamification has reached much larger numbers of players and companies faster and with more tangible results. Tell broadcasters that gamification has increased viewing figures by 40 per cent, or e-commerce websites that it has reduced friction in the acquisition funnel by 90 per cent, and clients have proven more likely to pay up.

THE GUESSING GAMIFICATION

Beware analysts telling you that gamification is worth $XXXm. These are simply guesses based on hyped-up sales projections of the aforementioned marketers. No-one will ever scale this market accurately because it is impossible to track so many different industries trying gamification.

Nevertheless, gamification has demonstrated that it can scale, and generate substantial value. As gamification appears on every device, the mother lode of all gamification projects could finally arrive – education. To date governments have failed to use children's favourite entertainment mechanism for teaching, but the gamification of an entire school's syllabus has taken place in New York, funded by the state, with fascinating results. Games designers, who are fundamentally tutors as well as entertainers, could yet play an even more central role in our culture.

Rick Gibson is a director at Games Investor Consulting, which provides strategy and research consulting services for games, media and finance companies, plus commercial check-ups and online game optimisation for studios. **www.gamesinvestor.com**

//COMMENT: OPINION

The PSN hack lessons

by **David Braben**, Frontier Developments

Brand savvy, de-centralised groups like Anonymous (left) have shaken the games industry to its core

THE HACKING of the PlayStation Network is a very bad thing for our industry as a whole; not just Sony.

I'm sure we will learn more over time, but at the time of writing (May 2011) the rumours are that a major commercial provider of online resources was used by the hackers to hack into the PSN. Not only has this spread distrust and anger amongst games players, anxiously checking credit card statements and changing passwords for other online services, but it raises the spectre of potential future exposure of all online 'cloud' resource providers in terms of liability caused by actions of their customers using them to attack other services.

Doubtless they are busy checking those many customers now and verifying they are genuine commercial organisations, and I suspect they are also looking at what those customers are doing with the facilities they rent to them in a lot more detail.

This future, understandable paranoia may make doing such business 'in the cloud' much harder, especially for start-ups without a track record to carry the inevitably much more specific – and larger – insurance policies that will follow.

The main advantage of these 'cloud' services is that a hard-to-estimate business venture like a new online game can rent the relatively huge resources of an online provider at short notice based on actual demand, and tune the servers and bandwidth rented thereafter to match the eventual take-up.

The trouble is this profile to the service provider, at least in the first few days, is not unlike the sort of usage like that rumoured in the hack attack on PSN; for example a small-scale test followed by a relatively huge ramp-up of resources.

> ***"Practically speaking, people are always the weakest link. With enough dedication, most security systems can be overcome eventually."***

HOTZ PROPERTY

There is a further issue too; the publicity that these attacks generate. I imagine there are few in this industry that haven't heard of George Hotz now or indeed of Anonymous.

I thought the identity – perhaps we should say 'branding' these days – of Anonymous, taking imagery from the excellent film *V for Vendetta* was a good one, and I'm sure there will be many in that loose organisation who are very angry that others, probably outsiders simply misdirecting blame, have now irrevocably tainted the image of the wider group.

I have hacked into systems in the past (I was asked to do so) and it was an interesting challenge, but I succeeded far more quickly than the owner of the system expected. This is often the way.

It amazes me there has been so much talk about the fact that the British cracked the Enigma code in World War II, but no one thought to consider if the Germans had cracked the simpler British codes. They had, but not unsurprisingly chose not to tell the British – and, of course, the victors write the history books.

Practically speaking, people are always the weakest link. With enough dedication, most security systems can be overcome eventually.

All we can really do is make our house or network or whatever more secure than the one next door. Using memorable but easy-to-guess passwords, writing the passwords on post-it notes that are easily noticed by visitors, or simply someone working 'on the inside' are all problems. Much like with houses we have to be able to get in and out. Extra security is something to be suffered by us all as a result of the danger of break-ins, so we tolerate imperfect security in return for practicality. Let's face it, a house with no doors or windows would be more secure, but not very practical to live in.

THE DEVIL'S IN THE DATA

In the PSN case, as with other less publicised ones, the target has been the user data; Names, email addresses and so on. The key should be to reduce the value of having such lists in large numbers. We all tolerate casual fraud every day; we have no practical choice.

By this I mean the numerous emails trying to sell us something, or to scam us by saying we have inherited millions. But those scams are a part of the problem. They rely on such lists of in-use email addresses to do these annoying scams in the first place, and companies – like ours – regularly get emails offering to sell bulk lists of addresses, perpetuating the annoyance.

If sale of such bulk email lists were outlawed, this might help. We will all continue to pay for it in the years to come, the online component of our industry especially, as trust in online activities with access to credit cards is damaged.

Hacking has been around a long time and is probably here to stay, but hopefully this mass loss of personal data will be a rare thing. We need it to be.

David Braben is the founder of Cambridge-based Frontier Developments. Best known as the co-creator of *Elite*, Braben has contributed to, designed or overseen a number of other projects including *Frontier: Elite II*, *Dog's Life*, *Thrillville* and *LostWinds*. Frontier is currently developing his next title, *The Outsider*. He is also closely involved with Skillset.
www.frontier.co.uk

//COMMENT: LAW

Putting Refusal First

by **Tatiana Kruse**, Salans LLP

When agreeing a deal with a publisher, studios working on commissioned games should be aware of their rights with regarded to subsequent titles in the franchise

THE ISSUE: FIRST RIGHTS OF REFUSAL

Games development contracts not uncommonly contain such rights. A publisher of the developer's own IP may wish for such a right in relation to sequels or indeed the developer's next new game.

A developer making a commissioned game for the publisher's franchise might secure such a right for the next game under the franchise.

THE EXAMPLE CASE

To see how this applies, we can look to a case from outside the games sector.

The nature of such rights was considered in AstraZeneca UK Ltd v (1) Albemarle International Corporation (2) Albemarle Corporation (2011). Albemarle supplied AstraZeneca with 2,6 Di-isopropyl-phenol, which AstraZeneca distilled in its manufacture of propofol, the active ingredient of its anaesthetic, Diprivan. The supply contract provided that, should AstraZeneca cease distillation, it would give Albemarle 'the first opportunity and right of first refusal to supply propofol to [AstraZeneca] under mutually acceptable terms and conditions'. In the event, AstraZeneca entered into a contract to obtain propofal from a third party.

AstraZeneca contended that the provision, at most, required it to give Albermarle an opportunity to negotiate with AstraZeneca a contract on mutually acceptable terms. This is a weak obligation, as an 'agreement to agree' is not binding. The court, however, found that a first right of refusal, as an 'irreducible minimum', confers on the party to whom it is granted, the right to match the third party offer and be awarded the contract. For example, to receive a

> ***"A developer making a commissioned game for the publisher's franchise might secure such a right for the next game under the franchise."***

contractual offer containing the essential terms which the party who had granted the right was prepared to accept.

This is even though the detailed terms of the contract might require further negotiation and a contract might not necessarily ensue. The party who has granted the right must provide the party to whom it is granted, with details of the third party offer, at the latest, before the third party offer is accepted.

Moreover, it must act in good faith and disclose full details of the third party offer to the party entitled to the right of first refusal.

THE LESSON LEARNED

While the court did consider the commercial background, and in particular process which AstraZeneca could be expected to follow when tendering for the new contract, the principles are of general application.

A party which has granted such a right should bear in mind the limitation on accepting third party offers before the right of first refusal is exhausted, when negotiating with the third party, so as to avoid liability for breach of contract.

If granting such a right, the developer should provide for time limits for its exercise, otherwise the delays entailed by any 'to-ing and fro-ing' between publishers could increase the trouble of negotiations and cause financial difficulties when the deal is needed to continue funding operations.

More fundamentally, the contract should not provide for a first right of refusal if all that is intended is that there should be non-binding, good faith discussions.

Tatiana Kruse, of international law firm Salans LLP, is specialised in IP and IT law and has a particular interest computer games. She can be contacted on +44 (0)20 7509 6134.
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GDC EUROPE 2011

Develop gets up close and personal with GDC Europe 2011 event director Frank Sliwka

As is only appropriate in a man with his position, GDC Europe event director Frank Sliwka has incredible enthusiasm for the games industry in Europe.

"What Europe offers the games industry is unique; we are able to develop quality games for worldwide consumers and domestic European markets alike," he says.

"There is exciting growth and industry movement for Europe to come, specifically in the realm of social and mobile games. I believe we'll also see a rise in independent game development."

And those growth markets and burgeoning companies are in Sliwka's sights for the August GDC Europe gathering in Cologne, Germany – the third GDC event for the continent.

"GDC Europe aims to create an environment conductive for learning about game development and providing business networking opportunities. All GDC events provide a forum for professionals to learn, network and be inspired," he explains.

"However, if I were to name just one trend in this year's event as reflected by the current European games industry, it would be social and mobile games development. This is illustrated by many of the talks included in the conference.

"We have Innogames, Wooga, Zynga, Spil Games, Gameforge, Playdom, Playfish and Blue Fang, as well as talks covering monetisation and financial models, and making the move from traditional consoles to social games. We also have talks on the Vita and android development."

The scope of GDC is always large, however, and while the latest industry developments may have the thrill of the new on their side, they are up for some stiff competition for the attention of attendees from the larger industry come August.

THE MONTH AHEAD

A look at what July has in store for the industry and beyond…

JULY 1ST:
Keti Koti, the wonderfully named Emancipation Day celebration in the tiny South American nation of Suriname.

JULY 1ST:
Resident Evil Mercenaries 3D is released on the 3DS. That bit from Spaced where zombies start jumping out of the telly gets just a little bit closer to reality.

JULY 4TH:
U.S. Independence Day, or, the day the Colonials got away in 1776. The sprightly little devils.

JULY 7TH:
Bungie Day. Seventh Columnists everywhere will… well, play some *Halo*, most likely. Just like every other day.

JULY 14TH:
Harry Potter and the Deathly Hallows – Part 2 is released, drawing to a close one of the most popular franchises in film history. In game form.

JULY 14TH:
Bastille Day, the French national holiday celebrating the storming of the Bastille fortress in 1789, flashpoint of the French revolution.

JULY 15TH:
Captain America: Super Soldier is released. Those pesky Third Reich boys get a taste of righteous justice. Also of a shield. To the face.

JULY 19TH:
Casual Connect 2011 begins in Seattle, USA. The cream of the worldwide casual and mobile gaming scenes come together for three days to shoot the business breeze.

JULY 19TH:
The 2011 **Develop Conference** begins in the beautiful seaside city of Brighton, UK. Pack your bucket and spade.

JULY 20TH:
Time again for the biggest show in the European videogames development sector, the very excellent **Develop Industry Excellence Awards 2011**!

JULY 22ND:
Call of Juarez: The Cartel is released. Gruffness, curtness and lone-wolf, loose-cannonyness levels rise across the entire gaming world.

JULY 28TH:
The **China Digital Entertainment Expo** and Conference kicks off in Shanghai, China, bringing together the multi-billion dollar national and international industries.

"Some of the other talks we are excited about cover blockbuster console games, like *Mass Effect 3* and *Bulletstorm*," Sliwka says.

"We're also excited for our new conference structure, which includes the introduction of our four new event summits. Similar to our other GDC events, we've introduced these summits to add an additional dimension of knowledge to the main conference tracks, by dedicating a focused lineup of sessions on emerging topics that are pertinent to the European games scene."

The keynote lineup is also something that always draws in the crowds at the international GDC conferences, and GDC Europe 2011 is unlikely to be an exception to this.

"We're also very excited to hear from our keynote speakers Jens Begemann, the founder and CEO of Wooga, one of the top three social gaming companies on Facebook, as well as Richard Garriott, who helped to pioneer the whole MMORPG genre with his *Ultima* series, and is now the VP and creative director for the social media games developer Portalarium."

The GDC events across the world not only serve as a method for national and continental industries to present their wares to the international community, but also as a way for that community to head to and engage with those industries on their own turf. That same cosmopolitan operation will be in effect at this year's GDC Europe.

"The conference's content covers games and companies that are being developed and working not just in Europe, but across the whole world," Sliwka says.

"As always, we can't wait to showcase game development and business activities in areas throughout Europe – France, Germany, the Netherlands, the UK and the Nordic countries – as well as hosting a variety of speakers from international areas like Shanda from China and both Epic and Harmonix from the U.S.A."

It is left to Sliwka and his team to live up to the high example they have already set in the past three years, but judging by the confidence with which they discuss the upcoming event, they have it all in hand.

"Year after year, GDC Europe consistently delivers a high level of quality content to our attendees. The conference covers current themes and topics in the industry, such as the commonalities and distinction between European and American game development techniques," the event boss says.

"Partnered with our content, the business generated at GDC Europe continues to increase, drawing more attendees from throughout Europe and other regions with established or emerging game markets.

"If you're interested in game development and business, or are looking to connect with game developers, GDC Europe is a must-attend event."

www.gdceurope.com

DEVELOP DIARY

Your complete games development event calendar for the months ahead…

gma gamesmediaawards

GAMES MEDIA AWARDS 2011
October 26th
Vinopolis, London
www.intentmedia.co.uk

Now in their fifth year, the Games Media Awards look set to be even bigger and better in 2011.

The games press community's big night out is set for Wednesday October 26th at the super chic Vinopolis venue near Borough Market. Greg Davies will be the host for the evening.

Winners from ten categories will be voted for by members of the media and industry PRs.

A limited number of trade tickets and sponsorship opportunities are available. Contact Kathryn.Humphrey @intentmedia.co.uk to find out more information.

JULY 2011

EPIC UNREAL UNIVERSITY
July 13th to 14th
London, UK
www.epicgames.com

GAMEFEST 2011
July 14th to 15th
Chelsea FC, London
www.microsoftgamefest.com

DEVELOP CONFERENCE
July 19th to 21st
Brighton, UK
www.develop-conference.com

DEVELOP INDUSTRY EXCELLENCE AWARDS 2011
July 20th
Brighton, UK
www.develop-online.net

AUGUST 2011

SIGGRAPH 2011
August 7th to 11th
Vancouver, Canada
www.siggraph.org

EDINBURGH INTERACTIVE ENTERTAINMENT FESTIVAL
August 11th to 12th
Edinburgh, Scotland
www.edinburghfestival.co.uk

GDC EUROPE
August 16th to 18th
Cologne, Germany
www.gdceurope.com

GAMESCOM 2011
August 17th to 21st
Cologne, Germany
www.gamescom-cologne.com

SEPTEMBER 2011

CLOUD GAMING USA
September 7th to 8th
San Jose, USA
www.cgconfusa.com

THE DEVELOP QUIZ
September 14th
Sway Bar, London
www.develop-online.net

EUROGAMER EXPO 2011
September 22nd to 25th
Earl's Court, London, UK
expo.eurogamer.net

OCTOBER 2011

GAMES MEDIA AWARDS 2011
October 26th
Vinopolis, London
www.intentmedia.co.uk

GAMECITY
October 25th to 29th
Nottingham, UK
www.gamecity.org

LONDON MCM EXPO
Oct 28th to 30th
ExCeL, London
www.londonexpo.com

NOVEMBER 2011

LONDON GAMES CONFERENCE 2011
November 10th
London, UK
www.londongamesfestival.co.uk

FUTURE GAMING AND DIGITAL CONFERENCE
November 16th
Birmingham, UK
futuregaming.bsp-a.com

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BETA

DEVELOPMENT FEATURES, INTERVIEWS, ESSAYS & MORE

"It is now considered 'normal' and acceptable to play MMOs."
Jeremy Gaffney, NCsoft, p52

Region Focus: Guildford
p26

Your guide to the Develop Conference
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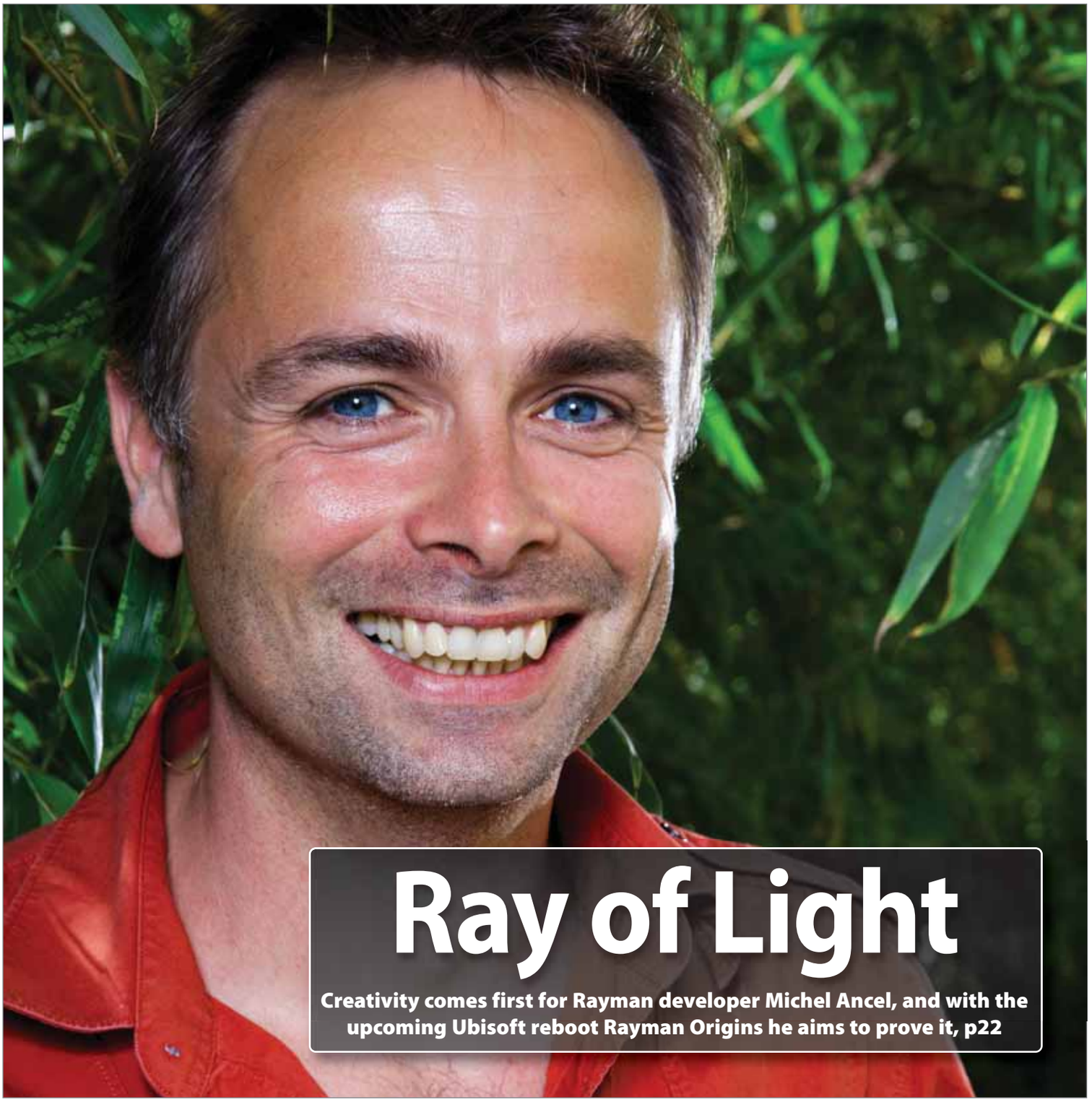
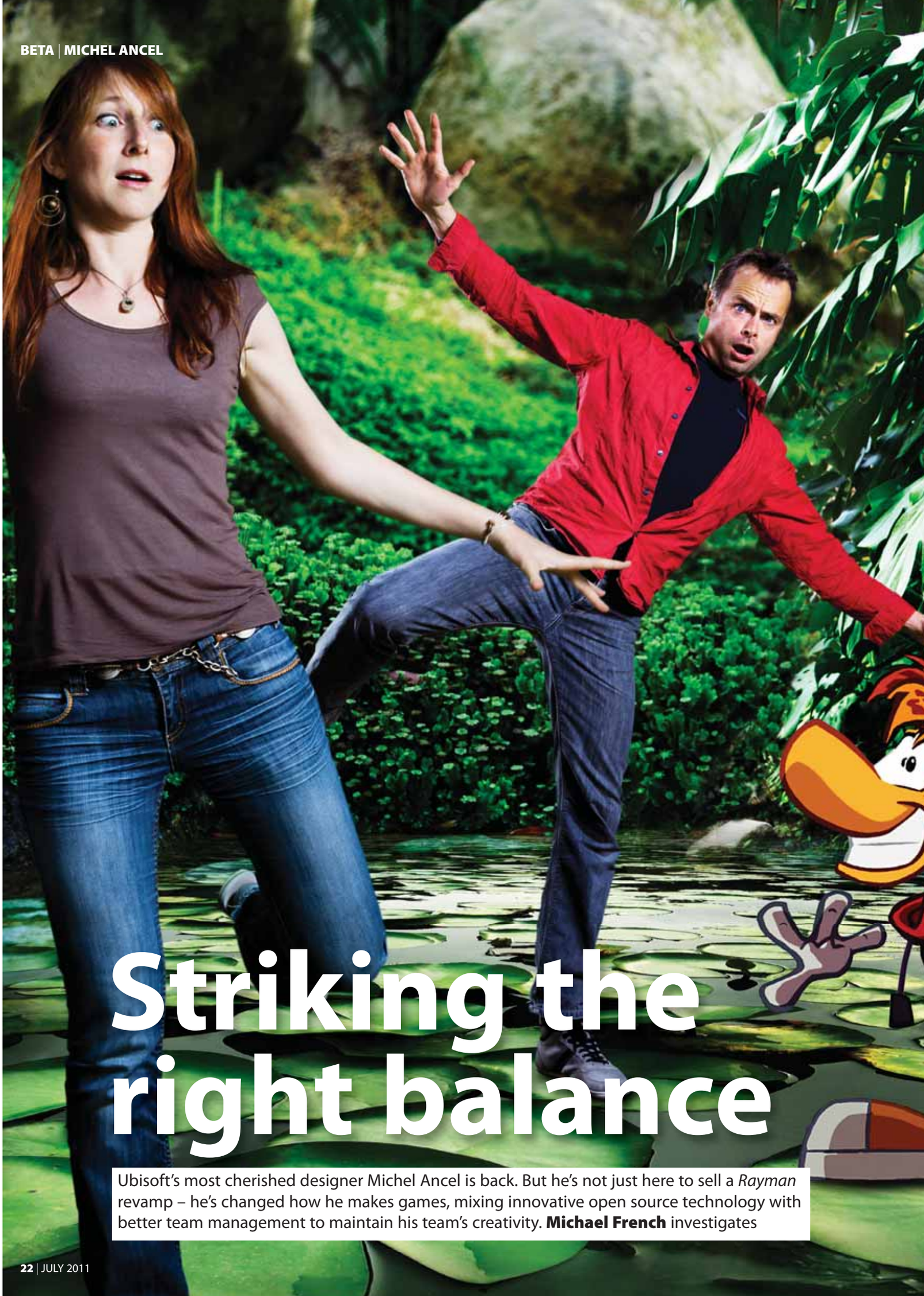
How to succeed with mobile games
p41



Ray of Light

Creativity comes first for Rayman developer Michel Ancel, and with the upcoming Ubisoft reboot Rayman Origins he aims to prove it, p22



Striking the right balance

Ubisoft's most cherished designer Michel Ancel is back. But he's not just here to sell a *Rayman* revamp – he's changed how he makes games, mixing innovative open source technology with better team management to maintain his team's creativity. **Michael French** investigates

If there's been one leading victor in the last decade's rapid sophistication of games development it has been Ubisoft. As games have reached new platforms, the French firm has spread to new continents. It has the largest development resource in the world, with teams in markets both established and emerging.

But while Ubisoft has defined everything great about games development, it has also helped complicate the field. Its biggest operation is the 2,000-strong Ubisoft Montreal, a site which effectively wrote the rules on contentious points like staff-hungry superstudios and proprietary in-house tech (supported by tax breaks, natch).

This seems to have weighed on the mind of *Rayman* creator Michel Ancel, one of the publisher's longest-serving developers.

After having kept a low-profile in games for five years after following the release of *Rayman* spin-off *Raving Rabbids*, he's back with a 10th anniversary game, *Rayman Origins*. And yet it is not just the origins of his best-selling franchise he's reimagined – but the very fundamentals of games design and production.

BACK TO BASICS

When *Origins'* development started, Ancel insisted on going back to basics production-wise as much as the game did conceptually.

That meant a small team, just a handful of people left to their own devices at his Ubisoft Montpellier studio. He wasn't interested in running a controlled and predictable super-sized team. "The thinking there is simple," he tells *Develop*. "The smaller the team, the more freedom you have. So the backgrounds in our game are designed by a very good female artist – I just wanted to let her imagine things freely and build a connection with art. It's not about asking for something precise, but something creative. With a large team, you don't get that chance. You must order people around, and tell them what to do.

"But a small team really exchanges ideas. And I knew that *Rayman* needs a… well, I call it 'out of control' creation. Where you don't know what's coming next."

Ancel is no stranger to that bigger team structure, which in many respects Ubisoft as refined. Some of its games are such an undertaking that yearly episodes require four or five studios in different time zones working through art, design, multiplayer, and so on.

The feeling *Develop* gets from him is that this method has become anathema to him.

"Yes," is the plain, honest reply. "The big teams have to be very controlled and precise – they avoid surprises. So the more organic nature of a small team allows you to move quickly and explore more.

"Don't get me wrong, I appreciate both ways of making a game."

But the contrast to the production of something like an *Assassin's Creed* is apparent. "It was very refreshing – and there was less pressure [in that machine], so you have the time to be creative. The human mind moves very quickly and fires off so many ideas, when you're smaller you can keep up with all those ideas."

Right now, in the four months or so before the game is completed, the *Origins* team has actually ballooned to 80 – but that's to finish the game off, says Ancel. This is the film production model at work, not games industry tradition.

"The team size has grown now because we know where we want to go – it's the 'doing the thing'.

"But the creation needed to be small. And then [when it comes to the next game] you shrink again, otherwise people get tired. Or artists end up spending ages drawing blades of grass for years."

A NEW FRAMEWORK

Ancel's approach to making games seems best described as enthusiasm tempered with weariness. There's no way a game as attractive as *Rayman Origins* could come from anyone less positive about the industry. Talk to him about games generally and he's an avid fan. Like many developers, he says he hasn't time to make games and play all he wants, but he signals out recent hits like *Angry Birds* and *Mass Effect* as titles he's made sure to play, while keeping an eye on new platforms like tables and smartphones.

But he's clearly frustrated with the way the industry makes those games. And once team management approaches were challenged when *Origins'* production began, Ancel moved on to his other irritation; technology.

"When we were making games for older platforms, we were just using synthesisers for music, we were experimenting with what we had and it was fun," he says of making the original *Rayman*, which became a slow-burning commercial hit on PSone. Famously, the character himself doesn't have a body because the hardware couldn't render that and his movement. So his design was born from technical constraints.

> ***"Every creator says 'I want to focus on fun'; but that's not true – they have to think about technology, or a story, or team management."***
>
> Michel Ancel, Ubisoft

"But over time music in games just became real orchestras and more detailed. Something was lost. The trend has always been to get 'better', more detailed, more realistic. But we don't necessarily agree. You become focused on new technology all the time."

The answer, ironically, was to build an alternative tech at Montpellier, and UbiArt Framework is the result. It's a platform designed specifically to help artists contribute more directly to the design process, a personal delight for Ancel who started out as a graphic designer on some of Ubisoft's early internal productions in the late '80s.

Origins' gameplay is a 2D multiplayer platformer – but the levels are essentially paintings simply scanned into UbiArt.

"It takes away the technical constraints that are exhausting for artists: modelling,

Rayman Origins boasts high-end artwork transferred from easel to screen using the UbiArt Framework

rendering… all that technology just creates a huge gap between what you intended and what you get. It allows us to iterate constantly, and we prototype rapidly," says Ancel. "We tried to limit the constraints on artists so they have a direct connection with the game."

And it shows on screen – *Rayman Origins* was one of the most eye-catching games at E3 last month, a creative star amidst a parade of high-end, blood-thirsty core gamer titles. The paintings effectively come to life thanks to UbiArt and the power of current-gen consoles. "Of course [despite what I said about technology] we're embracing HD graphics – it enables this to work. But the point is to use the right tool for the right job," he adds.

Other industries are attracted to what UbiArt offers too, he says: "We've been really frustrated with a lot of 3D content in games – it's never as we want it. But we've been talking to some big names from the comic book industry, and showing them UbiArt. We can take their images and scan them in, and it is true and consistent, but interactive – they were stunned. I can't talk much about what we are working on with them, but that's the beauty of it.

"We can bring highly creative art to life. The style we are going for is a mix between classic arcade gameplay, but with a very vibrant art element. In future we can use it to create some highly original artistic games."

SHARING THE VISION

What he wants to do next with UbiArt is another convention-challenging idea. He wants to give it away. For free.

"When we started this project we were very focused on letting this develop organically and share what we learned. So UbiArt has been built to be shared. It won't be like other games technologies, which are often just locked away."

The inevitable process of full licensing and distribution for the technology is still to be determined – Ancel and his team say that they'll leave that to the Ubisoft powers that be. But they are insistent UbiArt will be opened up so that a new wave of developers that don't work for Ubisoft will have access to it: "We will get it out there, for sure."

Won't that be expensive for his employer?

"Making Rayman here I have two goals. Firstly, to prove that this engine can be done, and that it is creative.

> ***"Artists are hurt by these exhausting constraints: modelling, rendering… all they do is create a gap between what you want and what you get."***
>
> Michel Ancel, Ubisoft

"And secondly, to make an actual game with it and prove it works."

So his thinking that Ubisoft will profit from the game and the artistic works created with UbiArt, not the tools themselves.

"If the guys who invented the paintbrush only kept it for themselves then fine art [would be in a sorry state], it would be ephemeral," he says. "So yes, I want it to be open source, I want it to go out and be shared and evolved."

Ancel wants to take a page from other artistic mediums to further prove his idea holds water. "If you look at the best artists at Disney for example, they create incredible books and artwork and share their processes – it's interesting because those same people are happy to look at how other artists are developing their style. That whole medium has evolved on the basis of sharing ideas. But in games we lock it all in a black box and keep it to ourselves," he says.

"A lot of independent developers fail or struggle because of that trend. We need to be more open. I don't believe that keeping the technology to yourself is interesting. I want someone to look at our game and be inspired to use the tools to be artistic themselves. It is more interesting to have a community and share our content."

FINDING THE FUN

For Ancel and his team, this free approach to teams, artistry and technology takes them back to what they first loved about making games. "When we created *Rayman* we were very naive, just doing what we thought was funny and letting the development rule our direction," he recalls.

Plus, holding on to the original *Rayman* concept from 15 years ago has only helped encourage this new way of working.

"Our challenge was asking 'Why can't we do a very good game in 2D?' We're evolving the technology to concentrate on gameplay.

"As a creator if I knew 15 years ago what I know now… well, *Rayman Origins* is the game I'd intended to make. I'm not thinking about technology. I'm thinking about fun and concentrating on that. Every creator says 'I want to focus on fun; but that's not true – they have to think about technology, or a story, or team management. The pure fun is lost. I think we've managed to hold onto that as we made this game."

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How important is a sense of community to the Guildford game development hub?

Harvey Wheaton, studio director, Supermassive Games: I think the Guildford development hub is highly sociable in an informal context. If you go out you'll see lots of developers, everyone knows everyone and its absolutely fantastic. At a more formal level, it doesn't really happen.

Stuart Whyte, chief publishing officer, Lionhead Studios: But there is a lot of movement between the studios, and people changing careers within the hub, and there's connections through that.

Gavin Shields, COO, Turbulenz: We did have our first Tiga meet-up last week, and that was a really good opportunity for business discussions, because typically here, as has been said, it's great if you can go to a pub, but on a business level there's not so much here. I think it is important that we try and do more of that.

Wheaton: It is quite hard to find the right vehicle for that though, isn't it? We've been talking about it with Tiga and it is tricky to find the right vehicle for that kind of thing. We need to find a common purpose to provoke more than just going to a pub on a Friday or having a laugh at trade shows. Something needs to change there.

Is that because of the variety of studios in Guildford? You've got indies rubbing shoulders with giants like EA.

Barry Meade, director, Fireproof Studios: That mix of large and small has actually been great for us. As a smaller studio, and one with a lot of freelancers, Guildford's given us the opportunity to work with the likes of Codies and Media Molecule, and we've also worked with Sony and Activision.

Shields: In that regard, for us it's certainly a helpful thing to be here because locally we can be in touch with EA, Codemasters and many others, and that's a result of us being here in Guildford and some of our guys working elsewhere here in the past.

We're actually more focused at the moment on the small and medium sized developers right now, and certainly the time is right to be in Guildford. It's been a massive plus for us, because of the community of developers here.

So there's a degree of closeness between studios. How much does that help in terms of business development?

Whyte: Lots of the teams in Guildford have bubbled off other studios in the areas. For example, Lionhead bubbled off Bullfrog, and Media Molecule bubbled of Lionhead. Loads of people have bubbled off EA and Criterion, and it's still going on today. I think that's quite healthy, and it's a really cool thing to happen, especially when – and I don't know whether this is a bubble or not – the industry is supporting the idea of small teams doing iPhone-type experiences or Facebook games which require no much near as big an investment. It's a good time for these bubble-off studios to come into being.

So Guildford's game development ecosystem is well structured so as to adapt to a changing industry?

Patrick O'Luanaigh, CEO, nDreams: That's certainly the case in terms of being able to form links with other companies. Even for us, being based just outside Guildford, we've been able to work with all kinds of big companies like Codemasters. Other companies are not so far away like Double Six and Testology in Aldershot. So even though we might not see people socially all the time there's such a good variety of different parts of the industry it's really useful, which really helps with adapting. If you want to go and visit people and talk stuff over, being so close physically to so much variety is really handy.

Whyte: One thing that's really interesting in terms of the industry going forward is – and I know Lionhead really use this and I know EA use this – the use of contract staff. In

THE CREATIVE GUILD

Some 30 miles from London, Guildford remains one of Europe's leading games industry hubs. As a home to the likes of EA, Codemasters and Lionhead, it today rivals it metropolis neighbour. **Will Freeman** sat down with some of the town's greatest development talent to find out why

Guildford there is the option of ramping up and ramping down and using contractors because it is the kind of environment and area with enough critical mass of those staff that can support contract model. It's great because it allows people to really specialise and move around. We're certainly starting to see more of that here, but it would be great if there were more companies around the table with regard to contract staff.

Wheaton: Even in the past few weeks I've noticed more dialogue and people talking about contractors. That's really the first I've seen of anybody actively pushing that.

Whyte: Yes. Hopefully we can all start to do that more and share. We're all going to be growing and shrinking at different points as we make games, so the ability to foster an ecosystem where we can support people to move around between Guildford studios, and actually see them learn from different companies and spread that knowledge about making games between us; that could really help us all.

Meade: You could say that the history of the Guildford hub is of a place that has sown the seeds of, well, a lot of things in the industry. I think the studios that exist here are just a little a cut above those in other areas. I'm sure everybody says that about their region, but I think the reason it's true about Guildford is because there's a lot of history here, and that's an important factor.

> ***"The backdrop that Guildford has and the history it has as a hub means the studios that are here are of a pretty high quality. They're thriving."***
>
> Barry Meade, Fireproof

A lot of the studios like Lionhead, like Media Molecule and like Codemasters employ people that have been part of the Guildford hub for 15 or 20 years, and that's a huge factor.

It ties in what we're talking about here because, for example, when we set up Fireproof we saw that the games industry was going to move to a movie industry model, where instead of hiring outsources you'd be hiring really fucking good outsourcers who really know their stuff.

The backdrop that Guildford has and the history it has as a hub means the studios that are here are of a pretty high quality. They're thriving, and they're exactly the kind of studios that will allow that business model to thrive. It hasn't happened completely yet, but with all the start-ups that are appearing here, give it a year or two and I think it will.

Shields: One of the challenges we have come across at Turbulenz is that as we're trying to combine the best bits of game platforms and the web, from a games developer point of view we've had no problem finding some of the best talent in the UK, but we also have to find talented web developers, and most of those seem to be migrating to East London. We haven't so many around here. Things like David Cameron's focus on East London make it tough.

On the subject of staffing, doesn't the number and quality of developers here make it fairly difficult in terms of competition for talent?

Wheaton: We haven't really had that problem, because Guildford is an attractive place to people all over the country. We've had staff join us from all over the place. And it helps that there's a lot of companies here, so there's always going to be work.

Some of Guildford's many senior development staff debate the pros and cons of the area

Above, clockwise from top left: Ian Johnson, studio manager, Codemasters; Barry Meade, director, Fireproof Studios; Gavin Shields, COO, Turbulenz; Stuart Whyte, chief publishing officer, Lionhead Studios; Harvey Wheaton, studio director, Supermassive Games; Patrick O'Luanaigh, CEO, nDreams

The Bright Lights of Guildford

GUILDFORD'S POSITION as a leading development hub started at the dawn of the modern games studio, when small teams like Bullfrog set the template of contemporary game development.

When EA acquired Bullfrog in the late 90's the giant of publishing and development assumed the role of the Guildford dev scene's most famous member.

That history, says VP and GM of EA's Bright Light Studios Harvey Elliot (*above*), remains part of EA's global significance today.

"It puts us at the heart of the games industry in the UK, and sits us amongst our peers in a really passionate and engaged development community," says Elliot. "We have two great studios here, Bright Light and Criterion, plus the headquarters of our European EA Partners division – and it just feels right that we have these great powerhouse development teams sitting in the centre of the town where so much of it began."

But it's not just nostalgia that's keeping EA in the town. Elliot is quick to point to another reason that Electronic Arts sees Guildford as so important.

"I think community sums it up," suggests Elliot. "We have informal relationships with most of the studios in Guildford and so much mutual respect. We all know how hard it is to make games, and it's great to be able to share perspectives with others from across the industry. When we meet we talk about making games in the UK, how we hire talent into the area, and how we approach our projects."

There is another factor to consider when pondering EA's role in the Guildford hub, and that is what the company offers the area.

"EA being in Guildford adds weight to the region," insists Harvey. "We are a magnet for great talent to the area, and our investment here is pretty significant, not just for the two studios and EA Partners, but because we also house a significant part of our European publishing team here."

Whyte: That's been helpful for us too, as we can let people come down to Guildford, check it out, and see there's loads of other places in Guildford for work in this industry.
Wheaton: It's also the case that both Guildford's game industry, and Guildford in general, is seen as a stable place to be. With all the turbulence in the industry recently, stability is a real strength of Guildford.
Ian Johnson, studio manager, Codemasters: It does really help that Guildford's a great place to move if you're bringing your family. If you're in that position this is a place with lots of opportunities.
Meade: The fact that there are lots of smaller companies here also helps, I think. There's so many different studio models here, in these turbulent times, if I were worried about loosing my job, its far better. Also, those smaller studios potentially offer staff more of a role, and maybe a bigger pay off in the long term.
Shields: The success stories here like that of Media Molecule are important too, as success breeds success, and that's good for attracting talent to the area.

Everyone seems fairly open to collaboration. How far could that be extended?
Johnson: There's possible ways we can help each other with efficiency. Some studios down here, for example, have their own mocap set-up, so there are ways we can share facilities and hardware or something like that. There's definitely ways we can help each other, and I think people are open to that.

> ***"There's obviously enticing tax incentives in places like Canada, so the way that we can compete with those is to be efficient."***
>
> Ian Johnson, Codemasters

It almost seems Guildford boasts a degree of self-sufficiency as a development hub. Is that fair to say?
Johnson: That seems to be becoming true, and I think that's partly a response by the studios here to the competition we're facing from overseas. There's obviously enticing tax incentives in places like Canada, so the way that we can compete with those is to be efficient. We can obviously do that internally as individual studios, but I think if as a group we had the confidence to share resources between ourselves instead of grabbing onto things like they are some valuable golden eggs, that would be ideal. That's nationally relevant too, but obviously getting there will mean many hurdles.

Perhaps Guildford is best positioned to set the example?
Johnson: Absolutely. I think if anywhere in the UK is going to set the benchmark for this, it will be a place like Guildford.
Meade: That's very true. I think people here are very comfortable with change, because there's so many studios around here it happens all the time.

It all sounds very positive, but there must be challenges in Guildford.
Johnson: Certainly Guildford could benefit from some kind of angel or venture capital base. Perhaps it's unsurprising that it doesn't exist, but there's enough companies here that would find it very useful. Especially seed funding or funding of less than two or three million pounds.
Meade: It would have been great if one of those guys had rocked up here a couple of years ago. But other than that, there's few negatives about Guildford. There could be better places to go out, that's for sure.

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Tuesday 19 July

The forward-looking Evolve conference focuses on all that is new in game development - new platforms, new technologies and new markets.

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Wednesday 20 July

A forum where games dev academics discuss how to create and maintain the best possible learning environments for their students.

21 July 2011
audio day

Thursday 21 July

A day of sessions dedicated to game audio and music, with world-class speakers and practical programme.

Audio Keynote 2011
☆ **Phil Kovats**
Sony Playstation

21 July 2011
indie dev day

NEW!

Thursday 21 July

The new **Indie Dev Day** aimed specifically at independent developers offers tons of sessions, a chance to meet publishers and mix with other indies. Plus, **Indie Showcase:** a dedicated area within the Develop Expo (20-21 July) featuring some of the exciting and new indie projects currently under development.

Keynote ☆
Sean Murray, Co-founder, Hello Games

INDIE
Free: Is It Evil?
Will Luton, Mobile Pie

INDIE
Five Tips a Developer Needs to Succeed
Osborne Clarke, Olswang LLP

INDIE
Panel: Starting a Studio: Grad vs Veteran

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DON'T MISS...

KEYNOTE

The Develop Conference Opening Keynote

Living Inside A Molecule

Alex Evans, Kareem Ettouney, Mark Healey and Siobhan Reddy from Media Molecule, in conversation with Phil Harrison, Co-founder and General Partner, London Venture Partners

The team that brought you LittleBigPlanet, share their past, present and future. They ll talk stories from the trenches, inspiring ideas and their thoughts on the future of user generated content.

Plus keynotes from EA SPORTS, Mind Candy, WB Games, Sony Computer Entertainment, Jagex, Frontier and much, much more!

After Hours

The Evolve and Develop conferences are not just about learning, they re about mixing with your peers, making new contacts and yes - having a bit of fun along the way!

Monday 18 July
- The Guardian Blog Quiz from 8pm

Tuesday 19 July
- Ice Breaker Welcome Drinks from 6pm
- Relentless Poker Night in Aid of GamesAid from 8pm

Wednesday 20 July
- Develop Expo Booth Crawl from 5pm
- Develop Industry Excellence Awards from 7.30pm
  For tickets contact Kathryn Humphrey: kathryn.humphrey@intentmedia.co.uk
- The official Develop Awards after-party hosted by Eurogamer.net and GamesIndustry.biz (by invitation only)

Thursday 21 July
- Close of Conference Beers from 6pm

Own an iPhone, Android or Blackberry phone? Download the Develop Conference App!

The app will help keep you up-to-date with session timings, speaker info, Expo floorplan, important locations, parties to attend and the twitter postings to be kept informed of all the action! Just follow the link from our website.

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PIER REVIEW

Another year has flown by, and it's time once again for the Develop Conference in Brighton. Our essential guide brings you all you need to know about the show

Tuesday, July 19th sees the return of the Develop conference in Brighton. It's set to be bigger and better than ever before, and this year includes fresh elements and a new track.

1,300 developers, business executives and service and tech industry representatives are set to attend the event, which offers over 80 sessions, panels and workshops.

Now in its sixth year, the conference lets the industry's best come together to share ideas and experiences, learn from one another and network in a relaxed and upbeat seaside environment.

The Evolve track opens the show on Tuesday, July 19th, providing attendees with a unique conference focusing on the cutting edge of game development.

Wednesday, July 20th sees the opening day of the main Develop Conference, tackling the issues, tools, tricks and techniques of game development, and offering practical advice and solutions to take back to the studio. The same day also sees the Develop Industry Excellence Awards take place in Brighton.

On Thursday, July 21st Develop concludes, with the main conference, as well as the Audio track – a day of sessions dedicated to game audio and music – and the new Indie Dev Day, targeted specifically at independent developers.

Head to www.developconference.com for more details, and we'll see you there.

KEYNOTES

OPENING KEYNOTE:
Phil Harrison will interview the senior *Media Molecule* team, who will share their past, present and future. The 'Molecules' will discuss everything from their humble beginnings to their acquisition by Sony.

THURSDAY KEYNOTE:
The Stereoscopic 3D Experience - The first year of 3D on PlayStation 3
(Mick Hocking, senior director, Sony Computer Entertainment Worldwide Studios)

TRACK KEYNOTES:

AUDIO:
The 2011 Audio Keynote *(Phil Kovats, audio director and sound designer, SCEE)*

PRODUCTION KEYNOTE:
Changing the Way We Develop Games Without Sacrificing Our Indie Identity *(Kris Jones, executive producer of Transformers Universe, Jagex)*

CODING KEYNOTE:
De Re PlayStation Vita *(Kish Hirani, head of developer services, SCEE, and Neil Brown, senior engineer, R&D Department, SCEE)*

EVOLVE KEYNOTE:
Lessons Learned Building Moshi Monsters to 50m Users *(Michael Acton Smith, CEO and founder, Mind Candy)*

BUSINESS KEYNOTE:
Managing the Mystery *(Laura Fryer, VP and general manager, WB Games Seattle)*

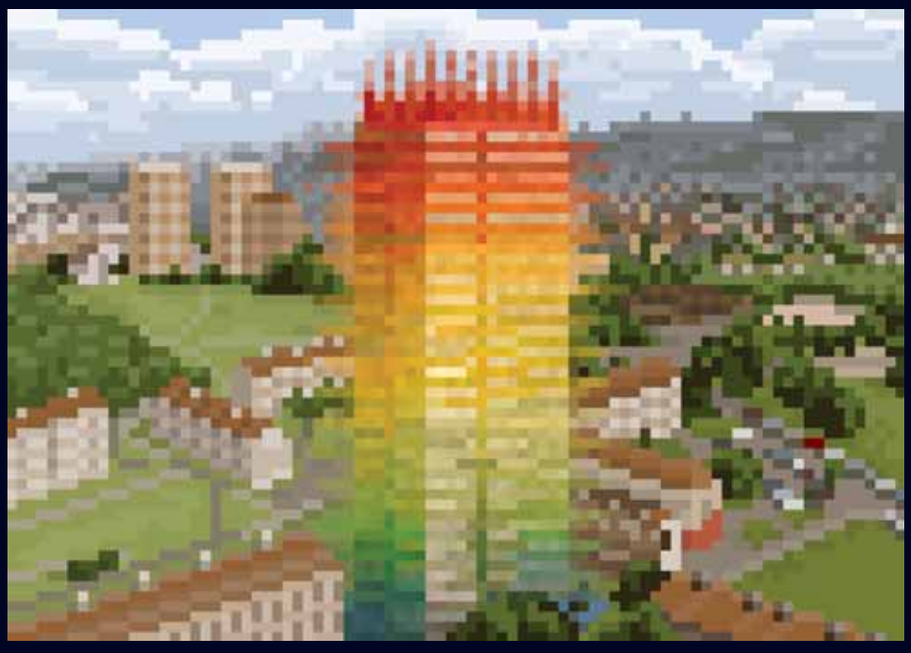
EVOLVE KEYNOTE:
Moving the Goalposts - Bringing Social Experiences to all Game Platforms *(Andrew Wilson, SVP of worldwide development, EA Sports)*

ART KEYNOTE:
Showtime! *(Iain McCaig, artist and conceptual designer)*

DESIGN KEYNOTE:
Making Disneyland *(David Braben, founder Frontier Developments)*

Tuesday July 19th: Evolve

	Room 5	Room 6	Room 7
9.30 - 10.15	KEYNOTE: Moving the Goalposts - Bringing Social Experiences to All Game Platforms (Room 5)		
10.20 - 11.05	Rolling from iPhone to Console: Lessons Learned from an Independent Developer	The Future of Games	Bringing Console Quality to a Casual Audience
11.05 - 11.20	Coffee break		
11.20 - 12.05	Are Smartphones the New Consoles?	The Future of Games is Social	New Stories for New Platforms
12.10 - 12.55	45 Games in 45 Minutes: A Brisk Guide to Mobile Gaming Innovation	Browser - The Place Where Console, Web and Social Games Come Together	Stop Guessing, Start Knowing! How to Make Money from Online Games
12.55 - 2.00	Lunch		
2.00 - 2.45	Bringing Innovation to Multiplatform Development and Deployment	The Evolving Games Business Model and How it Will Be Funded	Gamification - Extending the Game Play into Business
2.50 - 3.35	One Price Does NOT Fit All	Social, Games, Music and Fashion: New Frontiers	Marketing in the Age of Microtransactions
3.35 - 3.50	Coffee Break		
3.50 - 4.35	Monetising Android: Full Price v. Freemium	The Times They Are a-Changin' - A Disruptive View of the Gaming Industry	What's Next? (panel)
4.40 - 5.25	KEYNOTE: Lessons Learned Building Moshi Monsters to 50m Registered Users (Room 5)		



Wednesday July 20th: Conference

	Room 1	Room 2	Room 3	Room 4	Room 5	Room 6	Room 7	Room 8
09.30 - 10.30	OPENING KEYNOTE Room 2							
10.30 - 11.00	Coffee Break							
11.00 - 12.00	From TV to Games & Back Again	KEYNOTE: De Re Playstion Vita	Being Agile in a Waterfall World	From Phones to High End PCs: How to Scale Your Technology	No Console Required? Bulldozing the Barriers to Entry	From TV to Games - How an Animation Company Made the Switch	Money for Good Games	Iteration to insight: A view on how metrics changes the game FREE EXPO
12.00 - 1.30	Lunch							
1.30 - 2.30	Content isn't King: Why Developers Have to Do More Than Develop Games..	KEYNOTE: Making Disneyland	Crysis 2 Multiplayer - A (Mostly Technical) Postmortem	Fable The Journey -The Evolution and Preservation of a Distinctive Visual Style	6 months on: the Livingstone Hope Review	You Want What When? (or How Tools Saved My Life)	Applying Indie Philosophy to Mainstream Brands & IP	5 Keys to Building Value in a Games Business FREE EXPO
2.30 - 3.00	Break							
3.00 - 4.00	So You Think Virtual Worlds Aren't Important?	KEYNOTE: Showtime!	Kickstart Your Kinect Development	Engineering the Total War AI: from Soldier to Battalion	Harnessing The Compute Continuum To Grow Your Business	Innovation - A State of Mind	Throw Away Your Office (Panel)	All Things Must Pass FREE EXPO
4.00 - 4.30	Coffee Break							
4.30 -5.30	Social Games: From Weeds to Trees	KEYNOTE: Managing the Mystery	Digital Painting Masterclass	Kinect and the Future of Gaming and Entertainment	3 Screens and a Cloud:	Turning Ink Into Brink	Discussion of Future Directions in Games Technology	Who's Afraid of Games Tax Relief? FREE EXPO
5.00 - 6.00	Expo Booth Crawl							

DEVELOP INDUSTRY EXCELLENCE AWARDS: JULY 20TH

Returning for their ninth year, the Develop Industry Excellence Awards remain one of the most significant, relevant development sector award shows globally.

They also serve as the only peer-voted awards for the UK and European video games industry.

Once more, the awards will shine a spotlight on the games, studios, technologies, services and individuals that have shaped the industry, and will be attended by key executives, analysts, programmers, artists and musicians.

The nominees have battled it out in a range of categories covering everything from Creativity to Technology, Services and Studios.

Details on the finalists can be found online at develop-online.net.

The Develop Industry Excellence Awards return to the Hilton Metropole Hotel on July 20th.

Thursday July 21st: Conference

	Room 2	Room 3	Room 4	Room 5	Room 7	Room 8
10.00 - 11.00	KEYNOTE: The Stereoscopic 3D Experience - The first year of 3D on PlayStation 3 Odeon Cinema Brighton					
11.00 - 11.30	Coffee Break					
11.30 - 12.30	Being Different: 5 Innovation Techniques	Question Time: You Ask, They Answer (Panel)	KEYNOTE: Changing the Way We Develop Games Without Sacrificing Our Indie ID	Building Through the Board - Evolutionary Design for Serious Games	Stereography - the Art of 3D	Create. Play. A Modern Workflow for Character Animation in Games
12.30 - 1.30	Lunch and Indie Showcase Winner Announcement					
1.30 - 2.30	Building Community with PlayStation Network	Why Great Games Don't Always Sell	The Evolving Producer / Associate Producers Duet and its Impact on Game Productions	Happily Ever After - The Story of One Girl's Refusal to Delegate	The Relationship Between Developers, Publishers, Retailers and E-tailers in 2012 (Panel)	From Botticelli's Venus to Mario's Moustache: Enhancing Videogame Art with Traditional Art Principles
2.30 - 2.45	Break					
2.45 - 3.45	A 'RAOZ' By Any Other Name – Capturing Player-generated Names Using Kinect Speech Recognition	Level Design in Crysis 2 Multiplayer: How We Did it, and What We Learnt…	Building in 3D – LEGO Adventures on Nintendo 3DS	Another Year down the GameToilet	Producing Digital Download Content	Achieving the "Version Everything" Utopia
3.45 - 4.00	Coffee Break					
4.00 - 5.00	Dynamic Resolution Rendering	Contemporary UI – When Art and Design Collide!	BAFTA Session	Designing for Emotions: Understanding the Player Experience	Ten Do's and Dont's of Developing Motion Controlled Games	Share in the Community: LittleBigPlanet + X million players
5.00 - 5.30	Indie Showcase People's Choice Award Room 5					

EXPO: JULY 20TH & 21ST

Running alongside the main Develop in Brighton conference on the Wednesday and Thursday is the Develop Expo.

Entry to the show floor is free for all visitors , and brings together some of Europe's most innovative companies from every sector of games development.

At the heart of the Expo is the Develop Bar and Networking Lounge, meaning that you don't have to go far to buy colleagues a drink and network.

Autodesk	B24
Bungie	B48
Crisp Thinking	B40
Crunch	B27
Dimensional Imaging	B46
Epic Games	Networking Lounge
Gaikai	Sponsor
Ikinema	B28
Indie Showcase	B30
Kingston University	A14
NTI (New Technology Institute in Birmingham)	B39
Perforce Software	B44
Rad Game Tools	B50
Special Effects	A10
Tata Communications (UK)	B20
Testing Stuff	B26
The Creative Assembly	B22
Train2Game	B12
Wave Studios	B38

OTHER TRACKS

As well as the main conference, the Develop Industry Excellence Awards, Evolve and the Expo, there are a number of extra tracks and elements at Develop in Brighton.

The ***Indie Dev Day*** on the Thursday offers a day-long conference track with networking events aimed specifically at independent developers.

The ***Indie Showcase*** is also part of Indie Dev Day, and will feature 10 unpublished independently developed games shortlisted by a panel of experts. One of the games – which will be on display as part of the Expo – will go on to be overall Indie Showcase winner.

Also taking place on the Thursday is the dedicated ***Audio Track***, which offers a focused schedule from professionals involved in every aspect of game sound.

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SEE EXCERPT ON PAGE 70

250 Indie Games You Must Play

Mike Rose

Price: $29.95 / £17.99
Cat. #: K13514
ISBN: 9781439875742
Publication Date: April 21, 2011
Binding: Paperback

With a surge in popularity recently and an increase in great downloadable games, there has never been a better time to learn about independent "indie" games. 250 Indie Games You Must Play is a guide to the exciting and expanding world of indie gaming. Whether you are a veteran of the indie game scene or have never played an indie game before, this book helps you experience the best in indie gaming and further your understanding of why indie games are so important in the entertainment industry.

The wide range of games highlighted in the text encompasses concepts and ideas that will change your perspective of what video games can be. The book covers puzzlers, platformers, beat 'em ups, shoot 'em ups, role-playing, and strategy.

Apart from being fun, indie games can be experimental, emotional, nostalgic, and occasionally just plain bizarre. Some make you sit back in awe, while others have you thinking, "Why have I never played a game like this before?" Better still, the majority of these games are completely free to play and even the commercial releases are incredibly cheap. Once you start playing indie games, you may not be able to look at your big-budget blockbusters the same way ever again.

The Golden Age of Video Games: The Birth of a Multibillion Dollar Industry

Roberto Dillon,
Digipen Institute, Singapore

Price: $39.95 / £25.99
Cat. #: K13396
ISBN: 9781439873236
Publication Date: March 23, 2011
Binding: Paperback

This book focuses on the history of video games, consoles, and home computers from the very beginning until the mid-nineties, which started a new era in digital entertainment. The text features the most innovative games and introduces the pioneers who developed them. It offers brief analyses of the most relevant games from each time period. An epilogue covers the events and systems that followed this golden age while the appendices include a history of handheld games and an overview of the retro-gaming scene.

Game Engine Gems 2

Eric Lengyel,
Terathon Software

Price: $69.95 / £44.99
Cat. #: K13208
ISBN: 9781568814377
Publication Date: February 14, 2011
Binding: Hardback

This book, the second volume in the popular Game Engine Gems series, contains short articles that focus on a particular technique, describe a clever trick, or offer practical advice within the subject of game engine development. The 31 chapters cover three broad categories—graphics and rendering, game engine design, and systems programming. Professional game developers, students of game development and computer science, and anyone interested in learning how the pros tackle specific problems that arise during game engine development will find useful gems in this collection.

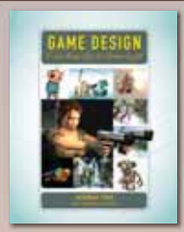
GPU Pro 2

Wolfgang Engel,
Confetti Special Effects

Price: $69.95 / £49.99
Cat. #: K00418
ISBN: 9781568817187
Publication Date: February 14, 2011
Binding: Hardback

This book focuses on advanced rendering techniques that run on the DirectX and/or OpenGL run-time with any shader language available. It includes articles on the latest and greatest techniques in real-time rendering, including MLAA, adaptive volumetric shadow maps, light propagation volumes, wrinkle animations, and much more. The book emphasizes techniques for handheld programming to reflect the increased importance of graphics on mobile devices. It covers geometry manipulation, effects in image space, shadows, 3D engine design, GPGPU, and graphics-related tools.

Game Design: From Blue Sky to Green Light



Deborah Todd

Price: $49.00 / £31.99
Cat. #: K00629
ISBN: 9781568813189
Publication Date: February 23, 2007
Binding: Paperback

This book takes a real-world, in-depth journey through the game-design process, from the initial blue sky sessions to pitching for a green light. The author discusses the decision and brainstorming phase, character development and story wrap, creation of content and context outlines, flowcharting game play, and creating design documents. Special features include examples of both classic and contemporary games, and interviews with many of the game industry's brightest professionals who share their insights on key elements in game design, and their analysis on what makes a game a blockbuster hit. This book is a perfect guide for the novice, student, and game enthusiast interested in learning the nuts and bolts of the computer-game industry.

Creating Games: Mechanics, Content, and Technology

Morgan McGuire,
Odest Chadwicke Jenkins

Price: $69.00 / £43.99
Cat. #: K00377
ISBN: 9781568813059
Publication Date: December 23, 2008

Creating Games offers a comprehensive overview of the technology, content, and mechanics of game design. It emphasizes the broad view of a games team and teaches you enough about your teammates' areas so that you can work effectively with them. The authors have included many worksheets and exercises to help get your small indie team off the ground.

Hitting the Phones

Rapid technological advances have made mobile development a tempting offer for studios of all sizes, but the pitfalls are many. Fortunately, *Develop* is here to help with a wealth of expert advice and analysis

In just a few years mobile gaming has changed enormously. What's more, it has done so with a ferocity and pace that far exceeds that seen in any parallel sector of the industry today.

Once an embarrassing cousin of console and handheld, the mobile space was not so long ago dominated by J2ME and ergonomically challenging handsets.

For years there was much talk of a revolution in gaming on cellular phones, but until 2008 when the App Store debuted, *Snake 2* on the Nokia 3310 remained a high point in the history of mobile.

Then the iPhone changed everything, and Android changed everything again. HTC finally became a household name, and mobile SDKs increased in power and capability.

Traditional console and PC engine companies like Epic turned their attention to consumers' pockets, and introduced the world to triple-A on mobile, while Unity managed to champion a trend in development that would carry it from plucky underdog to internationally respected video game technology business.

In the meantime powerful, highly specific middleware for mobile had started to become a reality, and outfits renowned for high end PC tech like Havok proved you can implement muscular physics solutions on phones.

The power of the devices' GPUs and CPUs ramped up enormously, bringing the distant dream of real console quality HD on mobile several steps closer. The PDA was reborn as the tablet, and devices like the Xperia Play arrived, determined to succeed where the N-Gage had failed so dramatically.

Smartphone sales are starting to threaten the future of the home PC, and services like 3G and social networks have evolved to the point where meaningful connected gaming experiences are now becoming a standard.

The future looks even more enthralling, as technologies that have barely settled on console such as 3D display look poised to leap to mobile

It's all very exciting, but there is a downside to such rapid progress. The learning curve is remarkably steep, not just for developers, but for everyone involved in the industry. Never before have those making games and related technologies had to be so agile, adaptable and adventurous. Arguably mobile is now the host of a new golden era of gaming; meaning game developers are the alchemists.

Over the next few pages, *Develop* brings you a select collection of perspectives on the mobile games sector from the industry's best; middleware providers, hardware companies and, of course, developers.

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Democratising Mobile?

Does the lower barrier to entry for mobile game development mean platforms like Android offer a level playing field for studios large and small? Somethin' Else CCO **Paul Bennun** has an idea

> ***"The lower barrier to entry doesn't totally level the playing field; it doesn't mean you get a million-pound marketing budget."***

Papa Sangre on an Android device (top) won't be coming to an app store near you any time soon, because it's near impossible for now, says Somethin' Else CCO Paul Bennun

Mobile. What a strange, slippery word. If we park the obviously mobile PSP and DS – let's call them 'handheld' – then you're not actually left with 'mobile phones.' From a commercial perspective right now, you're left with the iPhone. That's the bad news. The good news is the platform genuinely rewards innovation and staying true to your passions.

The fact that the Android app retail market is fragmented is normally cited as the biggest reason when someone posits that Android development is no way to pay the mortgage. Clearly that's true – any impediment to purchase is pretty much fatal for digital content. But beyond this unfortunate fact, the Android in-app purchase scheme is borked, and people would far rather pirate an Android app than buy it. This isn't Apple fanboyism, but economics.

PAPA'S PERSPECTIVE

From our perspective, though, there's a more important reason why we've not ported games like *Papa Sangre* or *The Nightjar* to Android; it's pretty much impossible (or specifically, the effort required is not economically viable). One forgets that iOS is the best part of 25 years old, tracing its lineage to 1988 and the NeXT OS.

Even Xcode is a direct descendant of Application Builder, the NeXT software development environment.

The media handling APIs are mature; the maths libraries are fast; the foundations are all ridiculously easy to use.

We just can't get complicated applications functioning with any kind of speed (if at all), and it's not because we're stupid or don't know the platform well enough.

Moore's Law will take care of the problem, but by then we'll be pushing the A6 in iPhone 5S to its limits.

So, together with Epic Games and id Software, we're decided we can't develop for Android in the foreseeable future. God knows, we'd love to.

So that's the bad news – a platform that outsells iOS but which you can't make any money out of. On the bright side, you can make money out of iOS. Even small studios, because of a certain levelling of terrain. But what terrain? And is it actually a fact? There's a truism that goes something like: 'small studios are on a level playing field with megacorps because all apps are equally visible in the App Store'.

That's important. And it's also true that while you could pile bazillions into a handheld game, you're going to be able to make more out of investing bazillions into console gaming. So the bazillionaires invest much less in handheld gaming – far closer to what a small independent team would invest. This means it's a much more 'fair' fight.

ENVIRONMENT FRIENDLY

What's actually interesting is that more accessible environments – that is, where anyone can download an SDK for less than £90 – attract a wider gene pool. I'd argue a game will succeed or fail dependent on the match between the developer's passion and skills, and the game they make, and that this is what's important in smaller studios having a crack at a bit of giant-killing.

Larger studios making smaller budget iOS games are less likely to produce genre-fracturing games, or tonally different games in the way that advance the state-of-the-art.

Put it another way, assuming both teams are run well and good at writing code, a product at a given budget can beat a product with twice that budget – if the skills and ambitions of the development team match the product.

The difference is that, now, those skills and ambitions can belong to a far, far wider set of ambitions. This means you get PopCap, Mr Fung Fung, Hand Circus and, of course, Somethin' Else. We've wanted to create an audio-only game like *Papa Sangre* for years, and had the skill in-house to do it because of our other audio-based work. We know the big studios have thought about it every other year – but thinking isn't the same as doing.

The lower barrier to entry doesn't totally level the playing field, of course; it doesn't mean you immediately get a million-pound marketing budget, but it does mean that if your game is worth a million quid you could turn it into cash money eventually.

Accessible hand-held gaming platforms – which one-day should include Android we firmly hope – aren't a platform for instant millionaires, but are still platforms for talented entrepreneurs. Long may that be the case.

www.somethinelse.com

Paul Bennun is a CCO of Somethin' Else. He holds internationally recognised awards in games, radio, mobile technology and interactive broadcasting such as BAFTA awards, Sony Radio Academy Awards and the GSM Association Awards.

Attention Seeking

So you've made your perfect mobile game, but how do you get it noticed? Mobile Pie's **Will Luton** offers some sterling advice on the delicate art of app visibility

Here at Mobile Pie we devote ourselves to building and selling glorious looking games that create a lot of joy. Yet we aren't the only ones – many visionaries, geniuses, chancers and fools pump out content in to the mobile games markets, leaving them flooded. Launching a game in this competitive, open and price-squeezed space, without good understanding and marketing, will cause your game to sink along with your cash.

If you're coming from a traditional 'shelves and stock' gaming background, you'll need to forget a lot of the conventional wisdom you've learned. If you're a first time indie, as much as it is painful to say, you're going have to accept the importance of good marketing to make sure you survive.

There are two really important things to remember when selling a mobile game; production and distribution costs don't apply, and they aren't played in the same way as console or PC titles. Therefore, successful games are quickly accessible and instantly sticky and, when not free, very cheap.

There are many potential outlets for a developer, but only two are sizeable and frictionless enough to be of interest to a newcomer: Google's Android and Apple's iOS.

MOBILE ICONS

Apple App Store is the only outlet for iOS apps, but Android has numerous, including Google's own Marketplace, as well as GetJar, Amazon and a smorgasbord of gated operator stores that come preinstalled on mobile devices.

All these outlets, however, have one thing in common; the apps are listed as a name and an icon. The browsing gamer, the majority of any app store's customer base, are bombarded with lots of these high-level propositions, so getting a good combination of a few thousand pixels and forty characters to tell a convincing story is crucial.

> ***If you're a first time indie, as much as it is painful to say, you're going to have to accept the importance of good marketing to make sure you survive.***

It can be a pretty tough and counter-intuitive journey finding this story and many sink weeks and months in to it. A great way to narrow down is to A/B test on a network like AdMob. You can set up a series of campaigns with different name and icon combos, buy a set amount of impressions and monitor which get the best click-through. You can then tune and fiddle until you've hit gold. This requires very little cash up front – you can get good results from as little as $50 per campaign – but makes any future visibility instantly more effective.

And it is visibility that is so much the key. Traditional games PR would at this point book some magazine spreads, E3 booth babes and maybe a TV spot. In mobile, however, most awareness raising off portal is entirely futile.

Unlike at a high street specialist retailer, gamers come to stores from all kinds of different backgrounds, without always having exposure to specialist press and, unless directly linked to an app page, without the intention of acquiring a specific product. The average mobile gamer is looking for something fun, now.

This makes featured placements the most important thing in the early life of an app. All huge App Store hits have the same anatomy; Strong initial featured spots and killer high-level propositions – icon, name and user rating – leading to chart traction, which brings further visibility and, if the app is good, word of mouth buzz. This sets up a magical positive feedback loop sustaining hundreds of thousands of downloads a day.

STRIKING GOLD

This golden scenario happens to only a handful of games, and whilst the majority of apps fail, lots live on to be profitable with only moderate featured exposure. Yet getting featured placement should be the number one goal of any developer. This is achieved either out of pure luck – being picked out of the crowd – or by networking, finding contacts and lobbying them for position.

When featured placement fails, an app easily slips in to obscurity. Visibility and installs can be bought with direct-link promotions such as in-game banner impressions, free promotions sites – Free Game of the Day and Free App a Day are excellent – and, where available, PPI.

PPI (Pay Per Install) is a controversial system of rewarding a player with virtual currency for installing another, often free, game. It was known by many as the dirty secret of top ranking freemium iOS titles, driving huge numbers of installs and effectively buying chart position. Apple recently closed the practice down overnight, but it is burgeoning on Android.

This article is not an exhaustive list. The markets move quickly and each outlet and platform has its individual quirks, each game type its own demographics and business models. Meanwhile marketing methods, such as player sponsorship and PPA (Pay Per Action) are fast emerging. So it's essential to keep stay on top of progress, get out, network and keep an eye on industry press and chart movement.

www.mobile-pie.com

Will Luton is creative director at the award-winning boutique games and entertainment studio Mobile Pie. Based in the heart of Bristol, the Pie create 'delicious' own IP and work their magic on tasty licenses, with a client list that includes the BBC, Orange and Hewlett-Packard, and experience on every mobile platform from J2ME to iOS.

Will Luton is creative director at Mobile Pie, the studio behind MyStar (left)

Mobilising **Middleware**

As mobile devices become more complicated, their ability to harness the power of middleware is increasing dramatically. Ideaworks CTO **Tim Closs** considers how both tools and hardware must adapt to this change

The variety in mobile development environments can make life very trying for studios embracing platforms like iOS and Android, argues Tim Closs (below)

Happy Birthday games middleware – you're ten years old. It's a decade since the launch of Renderware Graphics 3, the first middleware product that really struck a chord with game developers.

The reasons for its success? Conditions were right; sufficient HW/SW diversity in the viable platforms and sufficient complexity of content demanded by consumers.

Games middleware has never looked back; we've moved from a world where middleware was a curiosity to one where almost all games contain some third party component; and for triple-A titles, middleware budgets of over $1 million are now commonplace.

These days, mobile is the new massive growth space for games. So what about mobile middleware? Are the conditions right for it to thrive, and if so what are the requirements for success? In this article, we'll analyse the drivers for mobile middleware and compare the conditions and success criteria with the console world.

TARGET HARDWARE

In console, there are huge differences between system architectures such as graphics, storage and processor parallelism. Game engines that abstract these – with tolerable performance loss – create value. In mobile, system architectures are more similar. Most devices are based on half a dozen chipsets, and any proprietary chipsets still use the same core CPU (ARM) and GPU designs. Game engines don't have much to abstract here.

As is increasingly the case for consoles, mobile device form factors also vary only slightly; touchscreen smartphone, tablet, and possibly slide-out keyboard. Performance-wise, the typical mobile target is significantly more powerful than the PSP, but increasing screen resolutions leave most devices heavily GPU-bound, so engines focusing on high-end rendering features will not currently create much value.

> ***"The winning mobile middleware formula will be more about smarter platforms than sophisticated engines."***

TARGET OPERATING SYSTEM

In console, the OS is a relatively simple and predictable target. OS's are single-tasking (in the sense of running a single userspace app), interrupts of the app (by the OS or associated services) and are mainly focused around interactions with networked game services.

In mobile, the OS is more complex and unpredictable as the device is not a dedicated games machine. Your app can be interrupted by physical screen rotation/sliding, incoming calls/SMS, volume key presses and battery level warnings – potentially all at the same time. An engine that can truly abstract and tame this complexity creates value.

TARGET FIRMWARE

In console, there is really only one firmware per OS as there is only one device per OS. In mobile, things couldn't be more different. There are multiple manufacturers per OS, and multiple devices per manufacturer. Each manufacturer is trying to differentiate by tweaking stuff – either modifying the OS itself (as in encouraged by the Open Source nature of many) or by stuffing new peripherals onto the device, inevitably impacting the software stack. Moreover, the OS providers are in a continual battle over features and user interfaces, so OS versions are regularly ramped. The result is a huge degree of cross-device fragmentation; another challenge for smart middleware to solve.

DEVELOPMENT ENVIRONMENT

In console, development environments are largely standardised, with the majority of programming done in C++ using IDEs such as Visual Studio. To a large extent, game and higher-level engine code can be migrated between target platforms quite easily. In mobile, there are huge differences between development environments; the iPhone SDK mandates Objective C, Xcode and a Mac; Android mandates Java and recommends Eclipse; the list goes on.

There is simply no easy route from iPhone to Android if the original game is written wholly in Objective C using the iPhone SDK. If mobile middleware could provide game developers with a single integrated environment based around C++ and Visual Studio, it would deliver real value.

SERVICES

In console, connected services are limited and mandated by the platform/channel owners. In mobile, there is a rich and exploding diversity of these services, and exploiting these can be key to monetisation; for example advertising, currency, analytics, recommendations and push notifications.

Successful mobile middleware must support not just a fixed set of services, but the ability for developers to choose and integrate any service.

In conclusion, the problem set for mobile middleware looks very different from console, as follows:

- Tame the interoperability between app and OS
- Smooth the huge fragmentation at the device firmware level
- Provide a single C++ development environment (HW and SW) that can cover all targets
- Enable integration with any 3rd party service
- Little need to address system architecture variances
- Less need for high-end rendering features
- Less need for features focused around console-style genres

In summary, the winning mobile middleware formula will be more about smarter platforms than sophisticated engines. Here's to the next ten years.

www.ideaworks3d.com

Tim Closs has over 20 years' experience of commercial software development, and joined Ideaworks in 2004. As CTO, Tim has lead the creation and productisation of the Marmalade SDK, and continues to drive the company's technology and product strategies.

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*Sources: Arab Media Outlook 2010. Media on the Move 2009. A.T. Kearney. Introduction to Gaming. Michael Moore. Screen Digest. IDC.

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Getting Graphic

As consumers expect more and more from mobile games, the pressure is on developers to get the most they can from GPUs. Qualcomm's **Raj Talluri** looks at the future of console-quality visuals on mobile

Raj Talluri believes that modern mobile games like Desert Winds (right) may have the most to gain from advances in phone GPU technology

Mobile innovation is at an all-time high. Earlier this year, chip manufacturers announced product roadmaps for the availability of multi-core chips for next-generation smartphones and tablets, making significant steps forward in allowing the mobile industry to deliver even more robust, efficient and seamless video gaming experiences.

While intense competition might raise our collective blood pressure, there's no doubt that it has led to increased power, speed and sophistication for mobile devices. In particular, we're seeing incredible performance gains in the graphics arena, with powerful new forms of GPU technology enabling HD-like visuals on mobile phones. In a field once dominated by voice communication, graphics and multimedia have truly become the prime conduit for transforming consumers' mobile experiences and expectations.

SMART PHONES

Perhaps no mobile feature has benefitted more from the historic advances in graphical innovation than gaming. Consumers today are voting with their wallets – and the numbers speak for themselves. According to Juniper Research, the mobile gaming industry will be worth £29.5 billion ($48 billion) by 2015. The smartphone industry's share of the US portable gaming market jumped from 19 to 34 per cent from 2009 to 2010, and smartphones now account for eight per cent of overall gaming revenue, up three per cent from last year. Among social gamers, mobile has emerged as the dominant platform. Mobile users now utilise their devices for games at a 61 per cent clip, more than any other feature, including search and music.

And we're not talking about *Tetris* and *Pac-Man*. 1080p video – once a pipe dream in mobile – will soon be a reality for smartphone users.

As gaming becomes more globally relevant, it's becoming clear that the GPU has emerged as the heart of the mobile experience.

Qualcomm's MSM8660 (below and far right); one of two variants of the processor found inside the Snapdragon development platform

GPU OPPOTUNITIES

The rapid transition from voice to data in the mobile space represents a golden opportunity for the graphics industry, but there are a number of hurdles to clear in order to capitalise. While mobile games rapidly increase in popularity, we still have a long way to go before mobile begins to seriously challenge the console gaming sector in terms of overall revenue.

The solution? We need to bring console graphics straight to mobile devices, providing on-the-go consumers with the same immersive gaming experience they get at home. That means enabling incumbent console systems like Xbox and PlayStation onto smartphones and developing graphics advanced enough to leave consumers asking: 'Why relegate myself to gaming on my couch when I can get the same optimal quality on my phone or tablet?'

> ***"Graphics and multimedia have truly become the prime conduit for transforming consumers' mobile experiences and expectations."***

The leading 3D tools that Qualcomm provides to developers, such as the Snapdragon SDK and Adreno GPU real-time profiler, makes it possible for developers to bring these on-the-go gaming experiences directly to the consumer.

As GPU technology becomes powerful enough to support native-like gaming and video, software development must be optimised to ensure that all-day battery life is prevalent in all smartphones.

Executing this delicate balance is perhaps the most daunting challenge as we continue to enhance GPU technology. Consumers shouldn't have to choose between late-night gaming with a friend and firing off a few tweets – our batteries should afford us to do both, and soon they will.

Overcoming these optimisation challenges will actually exacerbate one of the more over-arching issues our industry faces.

It's well known that as GPUs become more enhanced, data-heavy apps become enticing options for consumers. Unfortunately, these rich apps are beginning to cripple the very carriers that make them possible in the first place. GPU technology will need to meet this problem head on and show that it is indeed possible to retain superior graphics while streamlining the process in order to alleviate network stress.

THE SNAPDRAGON SOLUTION

Recognising the need to integrate multimedia and 2D and 3D graphics into mobile chipsets, Qualcomm made the tactical decision to acquire AMD's handheld graphics division in 2009. We incorporated the division into our Snapdragon chipset team to bring increased levels of GPU performance embedded into our chipsets, naming the GPU product Adreno.

Since the launch of the first Snapdragon powered devices each iteration has seen our Adreno GPU increase to offer more advanced capabilities. The first Snapdragon to launch incorporated the Adreno 200 GPU, which included support for 3D graphics with the first 1GHz CPU to launch in mobile devices.

Qualcomm's latest Snapdragon chipsets feature our Adreno 220 GPU, capable of delivering an HD gaming experience that exceeds PS2 and original Xbox. Next year, Qualcomm's integrated Adreno GPUs for Snapdragon will take mobile gaming a new level of console quality graphics for mobile devices, matching the gaming experience of the PlayStation 3 and Xbox 360 consoles, while at the same time consuming less power than current chipsets in the market.

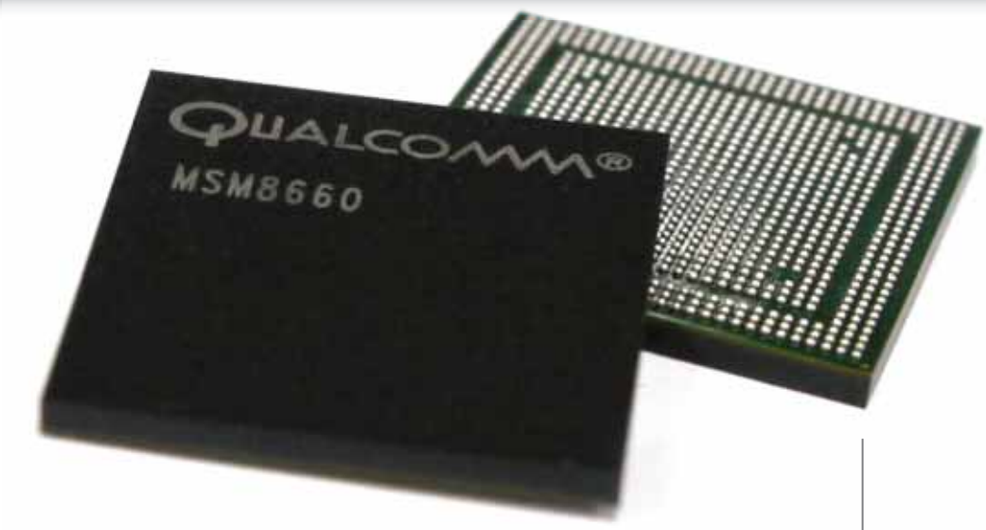
With Snapdragon powering the majority of Android devices, all Windows Phone 7 devices, all HP webOS devices and

supporting BlackBerry, the platform is arguably now one of the largest worldwide for gaming. As proof of this, there are currently more than 125 announced devices including the Sony Ericcson Xperia Play, HTC Sensation, HTC Evo 3D and HP TouchPad, with another 250 in development. When it comes to the emerging tablet sector, eight have been announced with another 40 in design.

STOP, COLLABORATE AND LISTEN

Close and productive partnerships have made the mobile industry more than a sum of its parts. With games and video streaming emerging as major selling points to consumers considering making the jump to smartphones, there is serious money to be made via lasting collaboration between OEMs and chipmakers.

IE Market Research Corp recently predicted that the market for mobile gaming, music and TV will hit £32 billion ($52 billion) by 2015 – up a substantial amount from the £20.3 billion ($32.9 billion) value in 2009. And the key to making that prediction a reality lies on advancements in GPU capabilities.



The market potential for mobile developers is significant, and unlike console gaming, developers don't need to wait six years for the next console edition to come out – Android is coming out with new cycles every six months. Collaboration is key. It's the connective tissue that has driven innovation in mobile for three decades, and fostering it on the GPU side will enhance the mobile community's global impact as smartphones evolve from luxuries to virtual lifelines.

www.qualcomm.com/snapdragon

Raj Talluri serves as vice president of product management for Qualcomm CDMA Technologies. He is responsible for managing Qualcomm's applications processor technologies and wired connectivity solutions for the company's chipset platforms.

Creative coders

Seeper, an arts and technology collective in Shoreditch, London, is looking for talented creative coders.

Founded in 1998, Seeper specialises in using gestural, tangible and instinctive user interaction technologies to create artistic, immersive, multi-sensory experiences and real world interactive installations and performances.

Ideally you're from a games development background, have a working knowledge of openGL, are fluent in C++ and have strong 3D math skills. You have a passion for interaction and can make fluid simulations in your sleep. You're self organised, a strong communicator, and you're keen to innovate, break new ground and make the seemingly impossible possible.

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All **Ecosystems** Go

Despite Apple's success, the struggle to emerge as the dominant mobile ecosystem is far from over. Here **Michael Schade**, CEO of *Galaxy on Fire* creator Fishlabs, casts an eye over the front lines in the battle for developers' attention

Michael Schade of Galaxy on Fire 2 (top) studio Fishlabs believes the mobile ecosystem battle is yet to be decided.

With billions of game downloads and 200 million iOS devices out there, Apple has created the most popular gaming platform ever. However, if *Angry Birds* is the biggest success story so far, there must be remaining untapped potential.

While the iPad 2 hardware is almost at a level that will be familiar to teams developing titles for consoles, one-man-show games like *Tiny Wings* can still knock even *Angry Birds* off the charts in an instant. It's a case of a truly democratic platform, but without a category for premium product on the devices, big publishers are hesitating to invest into Apple's platform.

Consequently, if multi-million pound development and marketing budgets are at stake, publishers want to have a better predictability of success before they commit to diving in completely. Ironically, selling high production premium games on premium devices to a premium audience seems like a natural fit, if only there was just a premium category on the App Store.

Maybe Apple just lacks the right gaming DNA to really go up against Microsoft, Nintendo and Sony.

And yet, even without a premium category the Apple App Store will remain the most attractive place for small and bigger mobile game developers for the next two years, as it is the most mature platform in terms of consistent installed hardware, a robust OS, and a tight store front. Last but not least, given its unparalleled track record, who knows what innovation Apple might come up with next?

AN OPEN ALTERNATIVE

But there isn't only Apple. Android now offers a tempting alternative. Now setting the pace with its devices-sold-per-day rate, and second in terms of installed base with 100 million products already in the public's hands, Android is also heavily supported by operators, and is substituting their J2ME content business. It sounds like a great space to be in.

> ***Google has to improve its ecosystem heavily to convince developers and publishers to justify their investments in the Android platform.***

However, openness brings with it software piracy, malware, and fragmentation. Furthermore, technical issues with in-app market billing, poor search results, and the absence of content quality management by Google hold it back from being a winner for paid content, yet.

It seems to be quite a stretch for a company that has built tremendous success on the mantra 'all services are free for the consumer' – monetising solely on ads and making copyrights not always the top priority – to become a really sustainable mobile ecosystem provider.

Google has to improve its ecosystem heavily to convince developers and publishers to justify their investments in the Android platform. But even free content is hard to monetise through ads, unless downloads are in the tens of millions. Some virtual goods-based games seem to be successful too, but this model won't work for cutting edge, high production games that utilise the latest hardware, as these make only a small number of devices today.

The silver lining on the horizon is that gaming hardware powerhouse Nvidia is betting heavily on Android, which could prompt Google to drastically improve its platform. Otherwise, if the content offering is poor compared to its competitors, consumers will stop buying multiple-core-powered Android devices. The pre-loaded Tegra Zone app featuring highly optimised games for Tegra-powered Android devices is a first step into the right direction.

THE ECOSYSTEM BATTLE

And then there's Nokia. It seems the once dominant company gets bashed from all sides for struggling in the booming smartphone market. Granted, as Steven Elop explained himself, to make Symbian^3 fit to compete against iOS and Android would take too long. Meanwhile MeeGo has arrived late and won't be available for mid and low-end smartphones, and does not appeal to other OEMs for obvious competition reasons.

However, from a developer's perspective, compared to the 100 million-strong heavily fragmented and a technically weak Android ecosystem, a consistent 50 million symbian^3 devices install base and a tightly managed OEM-centric store is the better choice today.

Backed up by two extremely wealthy new friends in Microsoft and Qualcomm, who probably will do anything to make sure Nokia sells tens of millions of Windows Phones, Nokia is a pretty good candidate for becoming at least number two in the race for the most successful mobile gaming platform.

Furthermore, Microsoft is a company with a vast amount of talent for selling software, and it brings with it a very strong gaming proposition. It would have not been the first time that Microsoft comes in to the arena late, especially into gaming, having teething issues in the first attempt but scoring well on the second.

If you put it all together there's a potential leader; the number one mobile hardware manufacturer with more than a billion customers, a solid and fresh-looking OS with a strong cross platform gaming proposition built-in, as well as a seamless MS Office integration, a premium content positioning, and the ability to keep carriers as an important part of the content value chain. The Microsoft-Nokia alliance is extremely appealing to consumers, operators and developers. Looks like now it is the time to buy Microsoft and Nokia stocks.

Michael Schade, CEO and co-founder of Fishlabs, makers of the highly successful sci-fi game series *Galaxy on Fire*, has been deeply involved with 3D computer graphics and software development for more than 18 years, many of which he has dedicated to developing and marketing 3D mobile games.

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PERFECT 10

Rabcat has been providing art outsourcing to high profile development studios for a decade. As the firm celebrates its tenth anniversary, **Will Freeman** catches up with its senior staff…

Special art created to celebrate Rabcat's tenth anniversary (main image), and the company's head of production Wolfram Neuer (above)

How has art outsourcing changed in the ten years Rabcat has been in business?

Thomas Schleischitz, CEO: Outsourcing has faced a major shift since we founded Rabcat in 2001. Back at the beginning, we were mostly involved in various productions for Xbox and PS2.

In those early days, it was possible to cover the complete art demand of a title with a handful of artists. Today, with a production headcount of 35-plus we are barely able to provide 10 per cent of the complete art package for a typical current-generation triple-A production.

For example, creating a vehicle for *GTA Vice City* suitable for Xbox was a pretty short task. Just spend a few days; done. Compared with this, it's a very different beast to produce a racing car for *Test Drive Unlimited* or even *Forza Motorsport 3*. I am not allowed to get too specific regarding this topic, but you can take it from me, it's far more time consuming. It's not about man-days any more; today it's about man-months.

Besides the constantly increasing time and effort that has to be put into state-of-the-art content production, the whole game market itself has experienced an epic change. Unfortunately, both publishers and developers of boxed titles learned it the hard way that gamers are no longer exclusive to consoles. Browser-based games flooded the market extremely fast and claimed a huge market share.

It's certainly a crisis for many traditional publishers and developers, yes, but it could be a great opportunity as well.

What of Rabcat's work and achievements over the past decade are you and the team most proud of?

Schleischitz: First of all, we are really proud of the fact that we have been in business for 10 years in a very successful way. I'd call it a seal of quality if a company survives in this ultra-fast moving industry for a decade.

> ***"I definitely notice a significantly rising demand for visual quality for browser games. When the market requests higher quality, budgets will raise."***
>
> Thomas Schleischitz, Rabcat

But, no doubt, the biggest achievement is of course the team that we formed during the last few years. At the end of the day, it's due to very loyal, professional and passionate people who enable Rabcat to stay competitive. They are the reason for top development studios to book us. For me, both our track record as well as our client list is a testament to the quality of the work we do.

How is Rabcat expecting to have to adapt and change to satisfy developers' needs?

Schleischitz: As mentioned before, we are in the middle of a fundamental change. As any industry, our industry is driven by money as well and video games investment has changed fundamentally, shifting to online and mobile products. Many major console players are having serious trouble adapting to online and/or mobile, and are not able or willing to make proper investments.

At the moment, most of those productions are equipped with comparatively small budgets. With regard to our business model as a dedicated premium art vendor, I assume it will be simply impossible to compete against vendors from low-wage countries when it comes to low or mid-budget productions for the growing online and free-to-play section.

So, what shall we do or how do we have to adapt to stay competitive? A frequently-used argument is if you want to compete against China you have to go to China and establish a team there. To tell the truth, this is – for several good reasons – not the solution I believe in.

Fortunately, I definitely notice a significantly rising demand for visual quality for browser-based games. As soon as the market requests higher quality, budgets will raise as well.

That's why I am confident that we will add some quality-orientated browser-game companies to our client pool in the course of 2011.

Could you give us an overview of how Rabcat's outsourcing model works?

Wolfram Neuer, head of production – game art: We have numerous internal QA steps on the artistic and technical side.

Multiple specialists are responsible for guiding our team in their field.

Both our art director and dedicated lead artists take a look at each asset and project every single day, and are also responsible for the final approval before the client receives our model.

In addition, the art department receives support from project managers who take care of all projects from a financial and organisational perspective.

We do take our internal QA very seriously at Rabcat. It's our highest priority to make sure that each asset looks as good as possible under the project's given constraints.

And it's equally important to us to deliver a constantly good quality and a consistent art style.

In theory Rabcat's outsourcing model is probably not that different from the approach used by our competitors in the high quality art segment.

But it's our extreme attention to detail that distinguishes us from the all of the other outsourcing studios.

Our team is highly motivated and shows initiative to deliver an asset that works perfectly for the intended purpose. That's why our clients trust in our services and keep coming back.

Providing art assets must mean you have to stay constantly at the head of the curve. How does Rabcat stay on top of the rapid and complex tech developments in game development?

Neuer: It's really not that hard for us. We're lucky to have a team that is very interested in learning new techniques and workflows to improve their artistic and technical skills. But we do have a platform in place that lets our artists share their knowledge evenly across the team.

We do arrange internal workshops and initiate discussions on a regular basis. Attendances at tradeshows and conferences keep us connected with numerous other industry professionals.Furthermore, we're also having beta testers for tools in our team, which helps to know where the trend is heading to. This in combination with 10 years of experience helps us to cover a wide range of tasks no matter what the art style.

> ***"We do take our internal QA very seriously at Rabcat. It's our highest priority to make sure that each asset looks as good as possible."***
>
> Wolfram Neuer, Rabcat

In recent years outsourcing's reputation seems to have changed for the better. Why do you think the industry is now far more positive about outsourcing?

Neuer: Due to the growing complexity of creating games and the increased expectations in regard to their visual quality, game developers previously had only a few options to meet these demands, without choosing to begin working with an outsourcing partner.

That's why most game studios already had experience with outsourcing, or at least familiarised themselves with this topic. In the early stages of this trend a lot of mistakes had been made.

But by now it is common knowledge that it is important to choose an outsourcing partner very carefully, and that the developer itself needs to be prepared for a cooperation as well, in order to outsource art assets most efficiently.

The industry also realised that a reliable outsourcing partner could benefit their developer in more ways than just providing cheap assets.

Outsourcing – when it is done right – enables full cost control over a package of art tasks. Ideally you don't have to care too much about the production ready assets that get delivered.

And game development studios can compensate their need for ramping with an external team that has proven to work together efficiently.

The facts detailed above have resulted in a changing perception in regard to video game outsourcing.

Game developers realise the value they are getting out of outsourcing services and are treating them to some extent as part of the team, which in the end benefits both the parties involved.

www.rabcat.com

Rabcat's CEO Thomas Schleischitz

MASSIVELY MULTIPLAYER OPPORTUNITY

While the fortunes of the most popular MMOs have never been better, it's now harder than ever create one that succeeds. **Jeremy Gaffney**, executive producer at NCsoft's Carbine Studios, takes a look at the future of the genre, and offers some advice on developing a hit

MMOs have come a long way since the early days. The technology, reach, credibility, subscriber numbers and – let's be completely honest – revenue from successful MMOs have exceeded all of our expectations.

When I was at Turbine working on *Asheron's Call* back in 1994, our target was to reach 50,000 to 80,000 players using modems and paying by the hour. Now we have multiple MMOs with millions of subscribers worldwide; success that was nothing more than a pipedream 20 years ago.

MMO gaming is now mainstream; a shift that has in part happened virally and organically, and to some extent because the industry has matured and the experiences we are creating for gamers have improved. Thanks to both of these things, it's now considered 'normal' and acceptable for a consumer to play MMOs.

From a development viewpoint, the success of this industry brings concern. I worry, for example, that mass market equals mass budget equals risk aversion equals conservative design. The great thing about the early MMOs – games like *Asheron's Call, Ultima Online, EverQuest* and *Lineage* – was the fact they experimented; they weren't afraid to take different directions. At NCsoft we recognise the importance of risk taking, not only with design, but with business models, genres and gameplay. The customer must always come first. And that means creating – and continually developing – quality experiences that they want to live in.

What's really interesting as we approach the next wave in MMOs is how those experiences will change. Should we be developing for mass or niche markets? Is it time to add console and mobile development to the mix? Are social gamers the new MMO subscribers and, if they are, how do we attract them? What business model is the best one?

MASS VS NICHE?

It's possible to make fun games in both areas. With a mass market model, the aim is to achieve a huge number of day one box sales and then worry about retention. For niche MMOs, this is turned on its head; don't worry about launch, just make sure each expansion increases your subscriber base. But the goal in the MMO space generally is to achieve a subscriber base that continually increases over time. This can only be achieved by keeping players happy in the long haul through quality content and gameplay, making it a very different business proposition to traditional box shifters.

DEVELOPING FOR CONSOLE AND MOBILE

When hitting a new market, it's essential you let your originality be dictated by the uniqueness of the platform. For instance, mobile demands short stints of gameplay, and this constrains the design. You've got to ask what you can do that's interesting in a fantasy MMO on mobile. Can it take advantage of the fact that you've got a position in the real world? Is there really any fun gameplay to be found in that? The developers that answer those questions well will enjoy successes; ports and unoriginal titles will not.

LURING THE SOCIAL GAMER

Social gaming is interesting, partly because there isn't an explicitly natural path for getting people from Facebook mass games into true MMOs.

The struggle for many is getting over the 3D hurdles – moving around with the WASD keys is a lot different than simply clicking on your crops.

There are a few games that have been able to surmount those hurdles, but it will be interesting overall to see how much that market moves into 'deeper' MMOs and how much the social games themselves become deeper to retain their existing fans.

> ***"It makes sense to target players who have left other MMOs, or who remain but are barely playing. This market is truly huge."***
>
> Jeremy Gaffney, Carbine

Instead, it makes sense to target players who have left other MMOs, or who remain but are barely playing. This market is truly huge. What's more, that demographic is predisposed to be interested in new games. But, as the market matures, the best tactic is to attract your core fans who live with you for a long while – but also to be a good enough game to get in the 'cycle' of games that players return to when bored with other games, or when they put out a cool expansion or new bit of content.

When players do cycle out, don't be tempted to make dumb moves on live development. Listen to them and work hard to keep them coming back.

At NCsoft we have dedicated community folks who spend a lot of time listening and have direct lines of communication to our development teams. Essentially, we have gamer geeks listening to our players and gamer geeks developing for them. This has been essential to our success. The desire to keep our players happy is high.

F2P OR SUBSCRIPTION?

I don't believe that one model rules all. As with all elements of games development, you need to consider what the customer can and is willing to pay.

Some people are really cost or model sensitive – kids who don't have credit cards yet, for instance. Others really don't care about cost. MMOs are cheap compared to boxed games, so paying a small fixed fee each month for hundreds of hours of game time compares very favourably.

So what does the future hold for MMOs? Well, in my opinion, it holds massive opportunity. Over the next 20 years, as in the last 20 years, changes in technology and innovation mean we will be able to evolve the way MMOs are designed, developed, distributed, paid for and played.

But the common denominator will always be the gamer.

And with gamers comes diversity, especially now.

This means that despite the opportunities that technology throws our way, it's unlikely there will ever be a one-model-fits-all approach to any of the above. That's why it's impossible to definitely say what the future holds for MMOs and also what makes developing them such an amazing job..

Jeremy Gaffney of Carbine (above) believes MMO developers must become increasingly agile
Top, facing page and below: Concept art from Carbine, which is at work on an unannouced project

Jeremy Gaffney is executive producer at MMO specialist and NCsoft division Carbine Studios. Previously Gaffney has served as founder of Turbine Entertainment, vice president of development for NCsoft North America, and designer of City of Heroes. Carbine is currently at work on an unannounced project.
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"It was my second visit to Edinburgh Interactive this year, and I am well and truly converted into a regular. The intimacy with such an amazing group of people is unlike any other game industry conference I've been to. A highly enjoyable two days!"
Kieran O'Neill, Co-founder and Managing Director of Playfire

"Edinburgh Interactive 2010 was a wonderfully compact conference, with high level speakers from across the spectrum of research, publishing, rock star developers and hardware manufacturers with the odd TV guy thrown in for good measure. I was impressed by the quality of presentation and came away an enlightened industry participant"
Michiel Bakker, Ginx TV

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GETTING SERIOUS

Few studios recognise the increasing potential of undertaking work in the serious gaming space. Pitbull's MD **Robert Troughton** offers an example of why it can work, and why your studio should consider the option

Serious Gaming is a sector of games development often overlooked by studios and individuals that have typically worked more in the triple-A space.

These developers are perhaps all too familiar with industry and public sectors frowning upon their work; even the fitness gaming specialty took a hit at first as fitness gurus claimed that it would stop people from doing 'real' exercise.

In some sectors, however, these worries are starting to fade. In fact, in the healthcare sector, many researchers are now considering gaming as a very real opportunity.

The problems facing the world's health sectors are well documented. There are plenty of statistics to quantify this. For example, 50 per cent of total healthcare spending comes from five per cent of the population in the US, while in the UK, stroke patients occupy approximately 20 per cent of all acute hospital beds and 25 per cent of long term beds.

Some pretty worrying statistics, and as people live longer and as we live unhealthier lifestyles, those figures will only get worse. It's due to the realisation of these facts that the NHS, and others worldwide, have recently begun looking at alternative ways to bring those costs down.

LIMBS ALIVE

Limbs Alive is a company that was formed in 2010 and which has been working exclusively with ourselves, Pitbull Studio, in the rehabilitative health sector. What we're trying to do together is to create serious – but fun – games which can help hemiplegia sufferers to recover and regain independence. Hemiplegia is total paralysis of the arm, leg and trunk on the same side of the body. Properly treating hemiplegia sufferers is a costly thing for the health sector worldwide, especially for upper body movement. Lower body movement is typically easier to treat – the patient will help themselves here by their need to move around – but upper body movement can be more of an issue. Sufferers often learn to cope using just one arm.

In front of a pitch committee in late 2009, Pitbull presented their design and ideas for a game presently called *Big Top* to help in this sector. The brief from the soon-to-be-formed Limbs Alive was clear cut: create a game incorporating several defined movements in a fun game environment suitable for children and the elderly alike.

> ***"What we're trying to do together is to create serious – but fun – games which can help hemiplegia sufferers to recover and regain independence."***
>
> Robert Troughton, Pitbull

The idea was simple; we would bring the required movements into a PC-based circus game using Sixense motion controllers – featuring events such as juggling, knife throwing, high dive and trapeze. The controllers were a much better fit for the requirements posed by the committee as they afforded full six degrees of freedom – similar to what can now be achieved with Kinect, and much better than what can be pulled from a Wii-mote.

PUBLIC SECTOR PROS AND CONS

All major public sector spending needs to be 'put out to tender' – that is, a committee needs to be created and a tender needs to be sent out to the private sector for companies or individuals to pitch on. The committee can decide which pitch to accept – based mostly on quality of the bid and the cost involved.

A result of this is that it's then very difficult to get additional funding – so that initial bid needs to be one which will definitely cover costs. If a less experienced team goes in with a lower bid than your own then they may end up winning the tender – even though, realistically, they can't complete the work.

One definite pro is that with the right research, there's a really good chance of winning a tender in this sector. If you find yourself presenting in front of the committee then, chances are, there won't be too many companies pitching against you. Decisions on who a tender is awarded to will also often be made in a very timely manner – the timetable for decisions is often laid out in advance. Another pro is that you won't find yourself worrying that the fund source is going to go bankrupt before you complete.

The only real con that Pitbull has had with working with the NHS has been that, at times, their lack of experience in the gaming sector has shown through with concerns about milestone deliverables – one milestone deliverable was delayed by a week because we hadn't chosen music tracks for one of the levels, for example. That said, given the chance to work on such a fulfilling project again, we would absolutely jump at it – and we'd wholeheartedly recommend others to do the same. For us, it makes a nice change from '*Test Drive 12*' and '*Brighton Rush*'.

www.pitbullstudio.co.uk

Pitbull's Robert Troughton wholeheartedly recommends considering work on serious gaming projects

Pitbull's game Big Top is designed to help hemiplegia suffers

Robert Troughton is MD of Pitbull Studio Limited, a games development company based in the north east of England, specialising in UE3 and Unity development, with active contracts for full and support work in both.

Why **Edinburgh?**

Edinburgh Interactive is back, and as ever it's bridging the gap between industry and consumer. Event director **Alexa Turness** explains why you should head to Scotland this year

The Edinburgh Interactive event is in a somewhat unique position in bridging the gap between industry and consumer, says event director Alexa Turner (above)

Edinburgh Interactive, now in its ninth year, has gone through many a changes in its lifetime.

Originally conceived in 2003 and called the Edinburgh International Games Festival, in 2006 the event changed its name to Edinburgh Interactive. The festival prides itself in covering emerging areas of interactivity and content, and visitors can definitely expect something different from this year's event.

What was once a full operation with full time staff has evolved greatly. The event today is spearheaded by one event director and a group of people, working together more or less for free, to put something on for the love of it. Edinburgh Interactive in born from a love for the industry and what it represents, and it is that culture that has made the event one of the longest running on the UK games calendar.

SHARP THINKING

Apart from being stimulated and informed by some of the sharpest minds in the industry, attendees will have an opportunity to understand the significant impact video games and interactive entertainment have on our culture, creativity and economy.

"It has been the perfect backdrop for the discussion and exploration of new ideas and partnerships in games, and a unique landscape which positions games as much a part of the arts as film, television, theatre, comedy and the irreverence of the Fringe," says Nintendo UK managing director and Edinburgh Interactive Chairman, David Yarnton of the event.

"I have always been a strong supporter of Edinburgh Interactive as it is a truly bi-partisan event that celebrates all the diversity that is good with our industry and leaves egos at the door."

Certainly, Edinburgh Interactive brings to the fore a mix of business, education and fun through a focused industry conference that bridges the gap between industry and consumer. For those outside the business of making games, it offers a selection of free public screenings of new titles and technology, and sessions delivering information on how to get involved in to the games industry.

> ***"The intimacy with such an amazing group of people is unlike any other games industry conference I've been to. A highly enjoyable two days."***
>
> Kieran O'Neill, Playfire

For those in the industry, the Edinburgh Interactive Conference is targeted at high-level business professionals, and provides a focal point for the crème de la crème of the interactive entertainment industry where they can discuss current trends, and look into the future of one of the fastest growing sectors of the creative economy.

Looking back at last year's show, Kieran O'Neill, co-founder and MD of Playfire remembers his time in the Scottish host city fondly. "It was my second visit to Edinburgh Interactive, and I am well and truly converted into a regular," he reveals. "The intimacy with such an amazing group of people is unlike any other games industry conference I've been to. A highly enjoyable two days."

And he's not the only fan. Gamesbrief's own Nicholas Lovell describes the show as "a melting pot of culture and technology, of art and business. The sessions weren't the normal corporate shill; they made you think about this wonderful endeavour we call making games."

This year's speakers include Sean Dromgoole, CEO of Some Research, and Edward Williams of BMO Capital Markets, who will discuss their different points of view on recent developments in the games industry and particularly the extent and the value of gamers developing interest in social gaming.

Edinburgh Interactive will also deliver two gamification sessions. The first; *Gamification: Building Games – the Mechanics, Rewards and Influences*, will include a presentation from Kam Star, chief play officer at Playgen, who will be joined by James Allsopp, Playgen's games designer and in-house psychology expert. They will discuss what makes a game a game and how the medium has the potential, if carefully handled, not just to entertain, but also influence behaviour and educate users.

TRADE TRICKS

The second gamification session, *Gamification: Trick of the Trade*, will be a panel discussion and debate that will look at platforms for game developers, TV producers and retailers that provide all that's needed to acquire, retain and manage gamers.

The panel will include specialist experts Rajat Paharia, CEO of Bunchball; Philipp Mohr, CEO of Comufy; James Sampson, head of product at Enteraction, and Chris Wright from Games Analytics.

Taking place at the city's Radisson Blu Hotel across August 11th and 12th, Edinburgh Interactive also sits at the heart of the internationally celebrated Fringe Festival. While many of the public sessions are free, full conferences tickets cost £175 plus VAT.

www.edinburghtinteractive.com

Alexa Turness is event director for Edinburgh Interactive and has 10 years event management experience under her belt. Pre-Edinburgh days, Alexa worked for Ultima Media for almost five years where she managed over 40 specialist conferences, dinners and award ceremonies in 11 countries and 19 cities.

Dundee Calling

The Dare to be Digital event is heading to Dundee this year. **Dr Louis Natanson**, academic director of the Institute of Arts, Media and Computer Games at the University of Abertay explains why

Above: Dr Louis Natanson and the rest of the Dare team (below) see their event as chance for studios to check out raw talent

What makes the games industry so exciting? Is it the creative rush, the indie underdog spirit, the thrill of a team working flat-out to launch their great ideas to the world? All of the above. And they'll all be on show to you in the heart of Dundee this August.

Dare to be Digital has grown from a small game development contest set up by the University of Abertay Dundee over a decade ago to a major international event, drawing exceptional young developers to Dundee each year for an intense nine weeks of development, industry mentoring, and public testing at the free ProtoPlay event.

ProtoPlay was always held in Edinburgh, alongside the Fringe and the main International Festival, but Dare and ProtoPlay have both grown and grown. More teams, more events, much more to see. This year we decided – it's time to come home.

Dare ProtoPlay will take over Dundee city centre from Friday, August 12th to Sunday, August 14th, with all 15 games available to play, a professional gamer tournament run on high-end Intel machines, game jams for pros and kids, and you, the development community, getting the first chance to spot the up-and-coming young talent and their new game ideas.

At the end of the weekend one team takes the Intel Visual Adrenaline award for best graphics, while three teams are picked as nominees for the unique BAFTA 'Ones to Watch' award, receiving instant industry attention. There's a lot to play for.

WHO DARES WINS

Blitz Games Studios is one of many companies that have supported Dare for years, and given the young developers invaluable advice. One year it even hired an entire team straight from Dare. Kim Blake from Blitz sees ProtoPlay as "a fantastic showcase of up-and-coming talent".

"The ProtoPlay event itself is immensely exciting," says Blake. "We get to see all the games that we've helped mentor, and even more importantly we get to see the public playing those games and giving immediate, first-hand feedback to the teams. It's a really great atmosphere."

> ***"It's a unique and incredibly valuable experience for new developers. It also creates a public platform new gaming talent."***
>
> Richard Hare, Outplay

Blitz is also among the many companies putting their wares on show at ProtoPlay – including a showcase of the fantastic Blitz1UP programme which offers help and support to independent developers, as well as introducing their new indie-only portal IndieCity.com.

Dundee outfits Cobra Mobile, Outplay Entertainment and Tag Games are also taking part in the industry showcase alongside legendary developers Crytek and Sony, bringing their new ideas direct to the development community and the public.

RAW TALENT

For new Dundee studio Outplay Entertainment, a mobile and social gaming company with big ambitions, the talent coming out of Abertay University and Dare to be Digital was a major reason brothers Doug and Richard Hare came back to Dundee from the US.

"ProtoPlay is a celebration of creativity and a showcase for new talent. It puts the teams competing in the whole Dare process face-to-face with the public and lets them see the reactions – good and bad – to their games and the design choices they agonised over," Richard says.

"It's a unique and incredibly valuable experience for new developers. It also creates a public platform for the new generation of gaming talent which can only be beneficial to developers and players alike."

Also on show are the best entrants to the Wacom Dare with Bamboo graphics competition, and the storyboard art contest we're running with *Beano* and *Dandy* publisher DC Thomson. There'll also be games industry talks, aimed both at professionals and the public.

JOIN IN

Dundee has an incredible games community, which we all know has weathered some challenging times. From the early days of DMA Design through to an incredible rush of new recent openings, we know there's something special happening here.

And ProtoPlay is always a great opportunity to meet up with old friends, hear what they're currently working on, push them to reveal a secret or two (we've certainly heard a few good ones over the years) and just enjoy seeing what the next generation of young developers can already teach us.

Come along in August and see it all for yourself. We can't wait.

Dr Louis Natanson leads computer games education at Abertay University, Dare to be Digital organiser and the first university to teach a degree in computer games technology. **www.daretobedigital.com**

Contracting Worlds

As studio models are evolving so are the options available to individuals employed in game development. Here **Liz Prince** of recruiter Amiqus offers advice on working as a freelancer

Contract work is of great benefit to both the freelancer and end client, says Amiqus' Liz Prince

Flexible ways of engaging a workforce are necessary for the modern studio, which means that working as a contractor is an appealing prospect.

So, what do we mean by a contractor? We are using the term to describe someone working on a temporary basis for an end client, usually placed in that role by a recruitment agency. Contractors can also be known as consultants or freelancers.

A contractor in this definition is not employed by or on the payroll of the end client; they are paid for time worked, calculated on an hourly or daily rate basis. Contractors are valued for their immediate impact, and ability to complete a deliverable with little management overhead.

The benefits of working in this way are many. As a contractor you are effectively selling your skills and your time. You have the freedom to choose your next move. You build your experience quickly on project after project, developing an impressive CV over time. Financially rates can be lucrative and you can maximise your earnings with efficient tax management. Finally, let's face it, permanent isn't always permanent.

But there are challenges too. Some skills may not be in demand on a project basis. There is often no guarantee of another contract when one ends, so this may not be the right lifestyle for you. You are responsible for your own payroll management and potentially running your own business – more on that later.

A successful contractor will have the ability to go to new organisations, adapting to the different ways of working. You need to get on with people easily and give advice only when it's required and wanted.

SUPPLY AND DEMAND

And what about the benefits to the end client? Using contractors provides a flexible workforce based on project demand, leaving no staff surplus when workload reduces. This is critical in such a project driven environment as a games studio as redundancies significantly impact morale and studio brand.

> ***"As a contractor you are effectively selling your skills and your time. You have the freedom to choose your next move. You build your experience quickly."***
>
> Liz Prince, Amiqus

Many of the costs of a permanent employee are avoided, making contractor engagement cost effective. The specific skills a contractor brings may not be available in the current team, and they can be relied upon to deliver on their assignments getting up to speed quickly.

So how does contracting work in reality? Clients engage with their agency to provide a contractor, defining the need, initial contract length and budget. We attract, select and qualify the best talent for the role, manage the interview process, contracts and on boarding until the contractor starts.

Quite simply, we make it easy for you by working behind the scenes to ensure that the contract is right for both parties and that legislation has been complied with. There is more legislation than we have space here to tell you about, but we're happy to explain all to you if you want to know. It's also vital that the contractor understands how they operate and how they get paid.

Let's look at that in more detail. Once you have a contract, there are two main methods of trading that contractors in the games industry choose from.

SPOILT FOR CHOICE

The first is working via an umbrella company who employ you and handle all the contractual administration, such as invoicing, tax and VAT. They charge a small fee for this but most contractors claim for legitimate employee expenses, offsetting them against tax which maximises take home pay.

The umbrella model is a good choice to test the water as a contractor, if you expect to be contracting only for a short time, or you can't face the paperwork of running your own business.

The second is to set up your own Limited Company. This means finding an accountant, taking out insurances, checking your status against current legislation for tax and paying the right amount. There are lots of companies who help manage this for you but there are still responsibilities that remain yours. This is a good choice if you're committed to contracting longer term, you're happy with the responsibilities and you can manage your own finances with an accountant.

So what's next? If contracting is attractive to you, the next step is to do some research. Talk to the agencies with a contract specialism in video games to see what kind of contracts might be available, whether you are suitable, and how much you could earn. If you want to know more, please get in touch with us via hello@amiqus.com.

www.amiqus.com

Liz Prince is the business manager responsible for all aspects of Amiqus' operations including the strategic direction, business development and people of the company. A graduate in computer science, she moved into the technology recruitment sector 15 years ago.

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THE LATEST TOOLS NEWS, TECH UPDATES & TUTORIALS

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CryEngine 3: Future Proof

In an era of significant industry shifts, CryTek is making sure its powerful engine doesn't get left behind, p62

EPIC DIARIES: ADHESIVE GAMES' MECH TITLE HAWKEN, p64

BATTLE CRY

Crytek is taking its engine to new developers and platforms, and wants its statement of intent to be heard loud and clear. **Will Freeman** caught up with the company's CEO Cevat Yerli at E3 2011 to find out more

Crytek CEO Cevat Yerli (above) is confident that CryEngine 3 is ready for the paradigm shift in consumers' platform preference

There's now more platforms available to developers than ever. Where does CryEngine go with so many platforms to potentially support beyond PC gaming?
We are pretty much going everywhere with it. CryEngine is expanding its footprint. We will support every platform that's a major player in the industry of gaming. We are expanding in many ways, and some of that is more announced than others. Our support for Wii U is definitely going to happen. In fact, we aren't showing it but we are pretty much running it already. Due to our relationship with Nintendo, we hope to get more access to it earlier.

Kinect is major driver for future platforms as well, so Kinect support is important. Having basic Kinect support in the CryEngine is one thing, but I'm talking about really supporting it deeply. CryEngine is going to have deep support.

Then there are other efforts towards supporting mobile and tablets, which we can only say we are working on. How far we have gone and what we mean is something I can't talk more about now. We are also showing behind closed doors some online and web-orientated technology.

Why are platforms like mobile and web now getting Crytek's attention? Those devices are quite different from CryEngine's traditional market.
Well, some people say that gaming is retracting or declining on PC. What's happening, in my opinion, is that there's a big shift in user behavior and the related business models. We've seen the move from games as a physical package to a downloadable item, and now to payment models like free-to-play microtransactions.

Those games are now being played on a range of devices that are not consoles. Consoles are still not fully supporting that kind of game, so mobile platforms and PC download clients and browser based-gaming are dominating the market and pushing the PC gaming to new heights, and they are not recognised by the people who say that the PC industry is declining. It is not a decline; it is a shift that is happening, and that shift is not only to free-to-play and PC download clients, but also to mobile and tablet. I say those devices because mobile and tablet platforms are replacing the PC, and replacing it for gaming as well. Mobile and tablets are taking the sales from laptops, they are also replacing the acquisition of gaming content.

> ***"I love Sony as a company, and we have great relations with them, but the Vita is going to have a hard time against the next generation mobiles."***
>
> Cevat Yerli, Crytek

Of course devices like these are letting people have a great time playing games very easily, by just going into something like the App Store. That offers one of the best consumer models in the industry.

Indie games are prolific in that space. Crytek previously expressed interest in a CryEngine indie SDK. How will that work, especially as a business model?
There are going to be much more PC games in development. If when developers ask about what the next console generation will bring they get no answers, and it is this late in the console cycle, usually what happens is a surge towards PC games, and free-to-play and microtransactions. It is the same in the mobile and tablets space as well. People are looking for opportunities and asking: 'where can I go if I don't know what is happening in the console business?'.

From an independent game developer's perspective, that is the best possible way forward now; looking at those kind of opportunities and exploring what you can do that minimises risks, and allows them to launch a company or IP. For those studios we are launching an IP that will empower them, not just from a game development perspective, but in terms of what is beyond game development. That is something we will talk about in more detail in the future.

So for now you can't tell us how the business model will work, either for Crytek or the indies? Crytek has to make money.
For now it is a much more long-term approach. We are not just thinking in the short term or about just this year, but actually about empowering these people with our engine, and then there will be ways of revenue generation for Crytek. But for now those ways are not the priority for Crytek. We want people to take the engine, and, with no revenue to Crytek at first, be able to make full casual and indie games.

There will be many ways of generating revenue and making this work. I don't want to announce them yet, but I will say that we will be very aggressive about getting as many developers as possible in a very short amount of time. Let's just say that implies a minimum barrier to entry for developers.

And how about the Vita? What is your reaction to that system?
The Vita is an absolutely fantastic platform but it will have a hard time, and it might be too late. I love Sony as a company, and we have great relations with them, but the Vita is going to have a hard time against the next

Cry Engine 3, it's creators promise, is capable of true next gen results (above)

generation mobiles and all the tablets. There's also the 3DS investing in this market. It's going to be a battle, and it will be about content and the platform's ability to receive the content. Streamlined social connectivity will also be very important.

Despite CryEngine 3's popularity with Asian online game developers, in the West uptake appears to have been slow. City Interactive recently emerged as one of the first external triple-A companies to use the tech for boxed product. How important is that 'traditional' market to Crytek?
If you're a current generation developer, you have a strong opportunity to captialise on the current generation if you are making a sequel or something based on an existing brand. If you are working on new IP, then you should probably concentrate on next generation development.

A couple of years ago in one of my presentations, I predicted that the next generation would arrive in 2012 or 2013, and I'm still holding to that. If you want to make a video game for the next generation, and maybe you want it to be a launch title, the message we are spreading is that you can do that with CryEngine 3 today.

CryEngine 3 will cover, by around 2013, all the dominant platforms that are applicable for developers looking to release triple-A packaged goods.

And you're still supporting high-end PC gaming. What does the new DirectX 11 support bring to Crysis 2 and subsequently CryEngine 3? Why is it especially important?
The DX11 upgrade is enhancing quality and the gameplay experience by adding higher quality graphics.

The latest enthusiast-class PC hardware has amazing performance and allows developers to expand their creativity and highlight their new technology and rendering algorithms, independent of any particular API. While the added features do require high-end PC hardware because they are very graphics intensive, the visual quality improvements are quite substantial.

> ***"We are actually the only engine on the entire planet – and by far I would say – including Unity and Epic, that is 100 per cent real time."***
>
> Cevat Yerli, Crytek

Several state-of-the art computer graphics algorithms are implemented, like screen space directional occlusion and screen space reflections, which approximate raytraced HDR reflections in screen space – on any surface – not limited to planar like reflections.

To manage both high tessellation factors and high overall visuals, Crytek attained proper balance by using parallax occlusion mapping in certain cases. Many quality settings are exposed in the game control panel for the user, allowing quality and performance tweaking.

Even so, with so many multiplatform engines out there, why should developers today choose CryEngine 3?
I think CryEngine is the engine you consider when you think of next generation development and when you think of open worlds, highly interactive content and real time development.

We are actually the only engine on the entire planet – and by far I would say – including Unity and Epic, that is 100 per cent real time. People underestimate what it means to be 100 per cent real time.

100 per cent real time means that not only do you get faster iteration cycles, but it is more fun to work with the technology, and you can explore ideas much more quickly. You can test and try and test and try and fail over and over, and that means studios really can learn very fast.

Also, it makes the team, eventually, a far better team, because people learn faster and develop themselves. That's how people grow; they grow by failing and learning.

In fact, that is the number one learning cycle of any human. CryEngine empowers people to develop their abilities faster by letting them fail and learn faster. That in turn bonds the team stronger, and eventually you get a better studio culture. There are so many indirect advantages to choosing to work with CryEngine 3.

And from a gamer's perspective, there are games that are developed with CryEngine that I would argue you just cannot develop with the Epic and Unity engines. But at the same time, those games that have been done with those platforms; all of them can be replicated with the CryEngine.

I would bet my hand on this. I know it and when people want to object to hearing that, they will find out that the CryEngine is the best engine.
mycryengine.com

KEY RELEASE

This Month: Will Freeman looks through Allegorithmic's new smart filter

WHAT IT?: A Substance filter that can help generate seamlessly tiling materials from any bitmap image
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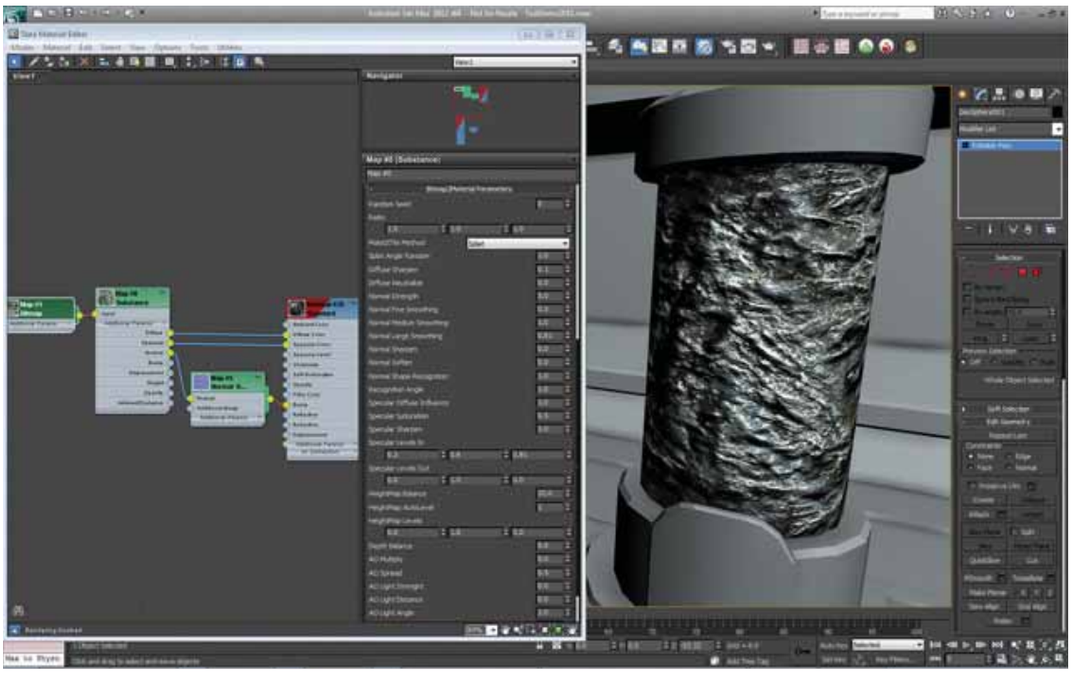

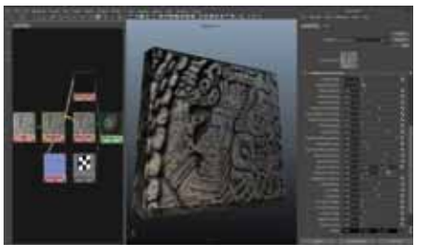

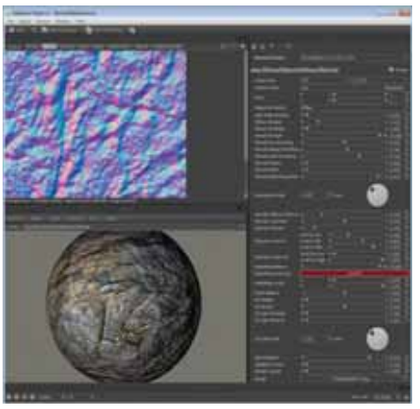

According to Allegorithmic president and founder Sébastion Deguy (right) the Bitmap2Material smart filter will save time for those involved in texturing workflow

THOSE CHARGED with making video game environment art will likely be familiar with the process of creating a full material without having to go through the modelling of a high polygon mesh.

It's not a particularly quick procedure, and can demand many hours sunk into Photoshop building normal and specular maps.

Recognising this time drain Allegorithmic, the outfit behind texture workflow suite Substance, has created Bitmap2Material, which handles that process in a few seconds, applying custom filters and effects on the diffuse to output the corresponding normal, specular, and other maps.

Bitmap2Material is in essence a powerful Substance filter that can help users generate seamlessly tiling materials from any bitmap image directly in all compatible solutions. It is already in use at studios including Insomniac, Criterion and Rockstar, and offers developers an additional way to reduce the memory bulk of the texture packages that can so drastically affect the final file size that the consumer sees when choosing to download a game.

"Bitmap2Material stores only the diffuse bitmap while all the other channels like the specular or normal maps are generated on the fly by the engine," explains Allegorithmic's president and founder Dr. Sébastien Deguy. "This allows reducing the size of the texture package significantly, as long as the Substance runtime is embedded in the 3D engine. Without the runtime, it still remains a great productivity tool."

THE GENERATION GAME

The fact that Bitmap2Material enables users to generate tiles in comparable solutions is something Deguy argues is a particularly important feature.

"Generating the textures directly in all compatible solutions allows you to preview the exact look of your material in real time while you are tweaking it, without having to export and re-import bitmaps from one piece of software to another or changing the texture format," explains the Allegorithmic boss. "It bypasses all these little tedious steps."

> ***"Generating the textures directly in all compatible solutions allows you to preview the exact look of your material in real time."***
>
> Sébastien Deguy, Allegorithmic

And that is at the very core of what the texture solutions company strives to do. Through technology, it lets developers save time, save on file size, and especially in the case of digitally distributed content, make the game's download file a great deal more lightweight and thus attractive to consumers.

And with Bitmap2Material, there's also a variety of built in features to make a day spent at a workstation just a little less demanding for those in a given studio responsible for textures.

"There are a few parameters that will improve very quickly the look of the material," says Deguy. "The Normal Shape recognition allows for the creation of very deep and smooth details on the normal map, even from a noisy diffuse map. The Light Equalizer will remove any lighting artefacts that could compromise the automatic tiling of the material, like darker areas in the corners or strong highlights; it really makes a huge difference when applying the material on a large surface."

SMART MOVES

Billed as 'smart filter', Bitmap2Material has been conceived so as to adapt to suit any type of texture. This, its creators say, allows users to create eye-catching materials from typically difficult diffuse maps including raw photographs.

The filter has also been designed to be easily extended with new features and options, and Allegorithmic already has plans underway that should see the tech updated regularly.

In fact, at this early stage in the life of the product the company has issued a call for feedback and update requests, giving early adopters of Bitmap2Material a chance to shape future iterations.

Bitmap2Material, it appears, delivers a significant boon to the arsenal of any of those who use Substance to improve their texturing workflows.

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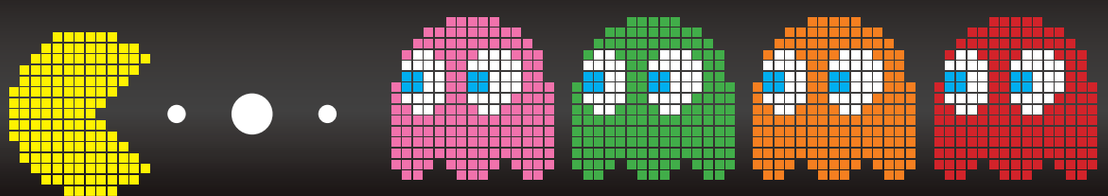

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EPIC DIARIES

Mark Rein turns his attention to Adhesive's mech combat game Hawken

Hawken
Developer: Adhesive Games
Released: TBC
www.adhesivegames.com

Hawken (above) ably demonstrates the triple-A quality a team with little previous experience with the Unreal tech can achieve

HAWKEN, ADHESIVE Games' upcoming multiplayer mech combat game built with Epic Games' Unreal Development Kit, is gathering an impressive amount of early buzz.

In development for about a year, the indie sensation has made fans all across the board, with *The Escapist* calling the preview trailer "quite simply amazing," *PC Gamer* praising it as "insanely beautiful," and *IGN* stating that the game has "visuals to challenge the very best games on the market."

But when the Adhesive Games team set out to create *Hawken*, they had almost no experience using Unreal Engine 3. For Khang Le, art director at Adhesive Games, the focus was on finding a robust solution that could deliver the graphically intense vision he had for the game on a tight schedule and with triple-A quality.

Le and his team decided to use UDK for the game because, when it came to Unreal Engine 3, he says: "We were familiar with its reputation as possibly the most licensed game engine in the industry. Being able to begin production using a cutting-edge game engine with no start-up cost offers an important opportunity to indie developers like us."

AHEAD OF THE GAME

Adhesive Games considered other options before choosing UDK, but Le explains that it quickly emerged as the frontrunner.

"Once we decided to create a graphics-intense multiplayer game, then Unreal Engine looked like the clear choice. With Unreal you get a console-ready engine that has been proven with bestselling released games." Additionally, UDK provided prototyping capabilities: "Within a month of starting *Hawken*," says Le, "we were able to test out a prototype."

As for the actual functionality of the Unreal Engine 3 toolset, the art director found many useful applications.

"We noticed many of the features available with UDK would only be there because the engine was used many, many times in game production," said Le. "This includes ease-of-use stuff like archetypes and searchable property lists, nuts and bolts components like the packaging system, as well as major features. There is a lot of depth to the engine. Prefabs are great; our kitbash method used to create our levels requires a very robust prefab system and UDK delivered."

When it comes to working with UDK instead of the full source code version of Unreal Engine 3, Le and his team were impressed with UDK's flexibility in spite of early concern.

"We had some initial worries that using only what was available in UDK might limit us artistically, but overall the artists have been very happy with the ease and power of UDK. It enables our small team to create triple-A quality visuals."

UNIVERSAL APPEAL

Hawken's visuals have been praised universally and compared to big budget studios. And while the team was somewhat skeptical about using only UDK and UnrealScript, that changed through the course of development.

Working at an impressive pace, the Adhesive team leaned on the extensive documentation through Epic's Unreal Developer Network and reached out to other developers who had used UDK for their projects.

"We've searched the UDN docs as well as online tutorials. Using a publicly available engine means it's not only possible, but likely that there will be information online about whatever we're trying to accomplish. Also, the UDK community has been very supportive. We often browse through the forum and read what's possible or not before we make design decisions," confirms Le.

The robust community and frequent updates behind UDK were also very useful for Le and his team. "The monthly UDK update is very valuable for us. Many times we have found that a feature we needed that wasn't there when we started Hawken is now integrated in the latest UDK build."

The Adhesive team is currently finalising plans for Hawken's distribution and plans to release the game next year.

UPCOMING EPIC ATTENDED EVENTS:

Epic Developer Day & Unreal University
London, UK
July 13th to 14th

Develop
Brighton, UK
July 19th to 21st

Comic-Con International
San Diego, CA
July 21st to 24th

GDC Europe
Cologne, Germany
August 15th to 17th

Please email: ***mrein@epicgames.com*** *for appointments.*

To discuss anything raised in this column or general licensing opportunities for Epic Games' *Unreal* engine, contact: **mrein@epicgames.com**

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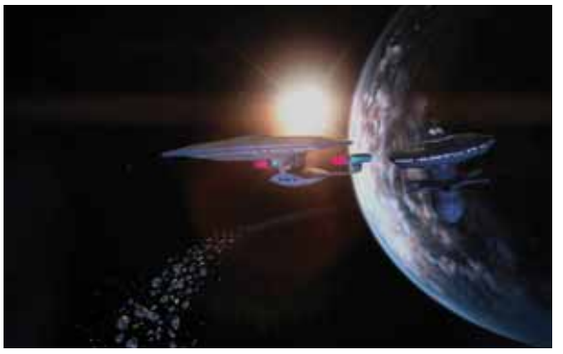
Canadian-born **Mark Rein** is vice president and co-founder of Epic Games based in Cary, North Carolina. Epic's Unreal Engine 3 has won Game Developer magazine's Best Engine Front Line Award four times along with entry into the Hall of Fame. UE3 has won three consecutive Develop Industry Excellence Awards. Epic is the creator of mega-hit *Unreal* series of games and the blockbuster *Gears of War* franchise. Follow @MarkRein on Twitter.

UNITY FOCUS

Will Freeman meets a developer at the browser frontier

STAR TREK: INFINITE SPACE
Developer: Keen Games
Platforms: PC
What is it: MMO
startrek-is.com



Keen Games creative director Antony Christoulakis

TO FIT the vast world of *Star Trek* and the ambitious make-up of an MMO into a web browser might sound like a daunting task, but it's one the staff at Keen Games are tackling undeterred.

Using the Unity Engine, a team led by creative director Antony Christoulakis, lead programmer Daniel Groh and producer Sarah Steffen has spun a vast online world from the familiar fabric of Gene Roddenberry's creation. It's one that runs without the need for a cumbersome client download, and delivers a game focused on tactical space combat and exploration.

THE NEXT GENERATION

"It was clear from the start that we wanted to do a 'next generation' browser game that offers high production values," explains Christoulakis. "We've looked at a couple of other options and Unity was clearly the best choice in terms of flexibility to extend its rendering technology."

And so began work on the MMO, with the Keen team quickly familiarising themselves with the elements that have made Unity a favourite for those making online games.

"First of all, Unity comes with a great ease of use for our players," says Christoulakis of the benefits of working with the engine. "All you have to do is install the Unity browser plug-in, which is a very simple procedure."

Certainly the famously popular Unity Web Player remains an alluring proposition for developers, and it was a fundamental reason for Keen Games' adoption of the tech. A major draw for the *Infinite Space* team was that it also blends well into a webpage, without sacrificing the ability to leap to full screen, letting developers further blur the disappearing line between web-based games and boxed products.

"From a development perspective, the Unity engine provides you with a rich set of features, like the powerful rendering engine, particle system, physics, content streaming and many others, so you are able to focus on developing the actual game," adds Christoulakis, staunch in his position as an advocate for the platform.

> ***"Unity comes with a great ease of use for our players. All you have to do is install the Unity browser plug-in, which is very simple."***
>
> Anthony Cristoulakis

SET FREE

But what Unity offers studios like Keen Games isn't just a feature set that, in recent memory alone, was the exclusive territory of triple-A console and PC development. It also provides games makers with what is arguably a far greater weapon to their arsenals; namely complete creative freedom on their individual projects.

When asked in what way Unity defined the atmosphere and aesthetic character of *Star Trek: Infinite Space*, Christoulakis is quick to reply: "You could say Unity shaped our game by not shaping it.

"Its great flexibility and extensibility allows developers to decide how the game should be and avoids limiting visions by technical constraints. Also, the Unity Editor allows rapid prototyping, which is very helpful to find the features that are most fun to play. From a graphical perspective, the freedom to achieve stunning visual effects and shaders comes in handy."

Last month *Child of Eden* creator Tetsuya Mizuguchi told Develop that the imagination is the final frontier. If that's the analogy of the moment, then Unity has equipped Keen with everything it needs to boldly go to that creative boundary.

MAKING IT SO

Building a browser MMO based on the *Star Trek* universe brings with it a huge level of responsibility. Taking the creative reigns of one of the planet's most well loved fictional worlds is a huge task, but that burden hasn't worried *Infinite Space* developer Keen Games.

"Working on a *Star Trek* game is really amazing. The endless amount of detail found in its universe is overwhelming - there is so much in terms of stories, characters or technology to draw from," confirms creative director Antony Christoulakis, who can't resist concluding with a playful reference that surely marks him out as a enthusiast of Gene Roddenberry's work.

"Our challenge is to bring it all together into a game that all the fans out there will be really happy with, but we are confident to make it so."

HEARD ABOUT

John Broomhall on this year's Develop Conference audio offering

DEVELOP CONFERENCE BRIGHTON AUDIO TRACK
Date: Thursday, July 21st, 2011
Venue: Hilton Metropole, Brighton
www.developconference.com/content/develop

Speakers at the Develop Conference's audio track include (left-to-right) movie sound man Alex Joseph, composer Jason Graves, PlayStation audio guru Jason Page, MGS' Kristofor Mellroth, Mark Estdale of Outsource Media, Alan Wake audio man Mark Yeend, and keynote speaker Phil Kovats, the Sony audio specialist behind Uncharted 2's (background) distinct sound

ONCE AGAIN, Europe's top game development talent will gather on Brighton's seafront this month to discuss the art, technology and business of making today's – and tomorrow's – video games. This year's audio track offers a wide-ranging set of sessions featuring some of today's game audio luminaries – a varied programme aimed at in-housers and freelancers alike.

Keynote speaker Phil Kovats is one of Sony PlayStation's leading audio talents. He's made his award-winning mark on epic, cutting edge video game productions like the popular *God Of War* series and the highly acclaimed *Uncharted 2* among others – not to mention a distinguished track record in TV post-production beforehand. Very fitting then that he should headline the show, sharing from his rich experience at the forefront of PS3 audio production. I can't wait.

THE CAKE IS A METAPHOR

Not that he'll overshadow this year's speaker roster – rather, he'll be the finishing layer and icing on a rather luscious audio cake. Joining Kovats at the audio track will be renowned BAFTA-winning composer Jason Graves, a personable and passionate advocate for music in games who'll discuss his approach to interactivity for remarkable scores such as *Dead Space* and its sequel.

The game *Alan Wake* is an audio tour-de-force that won Mark Yeend and his team two BAFTA nominations. Ably creating unsettling menace through to super-disturbing horror, it features a rich mix of both literal and non-literal sound design and a sure-footed music score which delivers reflective tenderness and nerve-grinding terror with equal aplomb. In a fascinating behind-the-scenes exposition, Yeend, the title's publishing audio director, will explore key factors that led to *Wake's* award-winning sound, music and dialogue success.

Yeend will also join MGS senior audio director Kristofor Mellroth for a two-hander 'News From The Front' session in which these two Microsoft audio experts will highlight a diverse mixture of key development issues, arising from their recent experiences whilst working on such signature titles as *Fable 3, Crackdown 2, Kinect Adventures, Toy Soldiers* and of course, *Alan Wake*.

> ***"If game audio's your thing, there's really only one place to be on July 21st – in Brighton checking out these speakers' latest ideas, thinking and innovation."***

POCKET CHANGE

Want to get the SP on Vita? Sony's portable video game console promises not just a step change but a revolution in handheld game audio, and senior Sony PlayStation audio guru Jason Page wants to tell you everything he can (without having to kill you) as well as point to how he thinks audio for the platform is likely to develop in future.

We're also delighted to welcome Mark Estdale, casting and voice director for Outsource Media who'll be joined by US actor/director Laurence Bouvard to give a no-holds-barred, hands-on practical workshop on getting the best from actors.

Meanwhile, Rockstar North's audio tech guru, Alastair MacGregor will grace the stage to talk about the audio tools, pipeline and run-time engine for such stellar titles as *Red Dead Redemption* and *GTA IV* – and how his technical team's investment in technology empowers Rockstar's creative audio teams to craft immersive and interactive worlds.

And did I mention Alex Joseph? He is a sound design genius whose credits include those little known movies *Casino Royale, Mamma Mia*, and all four of the *Harry Potter* motion pictures.

Alex has a ongoing interest in the relationship between the physicality of sound and how we as humans perceive it, which stems from the research he did for his degree in psychology. In a thought-provoking session he will explore what games can learn from film's psychological tricks, examining how subliminal sound can be used to prime the subconscious mind to enhance the gaming experience.

Ladies and gentlemen, I give you the Develop Conference audio track 2011.

If game audio's your thing, there's really only one place to be on July 21st – in Brighton checking out these speakers' latest ideas, thinking and innovation, networking with them, and partying beside the seaside. We very much look forward to to seeing you – and also hearing what you have to say in the customary final 'Open Mic' session.

Come and be inspired.

Audio Track: Thursday, July 21st, 2011

For full session information and booking details visit **www.developconference.com**

John Broomhall is an independent audio director, consultant and content provider.
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Deferred Shading

Part two of our excerpt from Game Engine Gems 2 offers more advice on deferred shading from **Balor Knight**, **Matthew Ritchie** and **George Parrish** of Black Rock Studio

Game Engine Games 2's editor Eric Lengyel (top), and the excerpt's co-authors and Black Rock Studio team members (top to bottom) George Parrish, Matthew Ritchie and Balor Knight

FOR part one of this tutorial check issue 117 of Develop, or look online at www.develop-online.net/features

Tile classification in *Split/Second* is broken into two parts. We classify four of the seven light properties during our screen-space shadow mask generation, and we classify the other three in a per-pixel pass. The reason for this is that the screen-space shadow code is already generating a one-quarter resolution (320 x 1880) texture, which perfectly matches our tile resolution of 4x4 pixels, and it is also reading depths, meaning that we can minimise texture reads and shader complexity in the per-pixel pass by extending the screen-space shadow mask code to perform all depth-related classification.

Moore and Jefferies [2009] explain how we generate a one-quarter resolution screen-space shadow mask texture that contains three shadow types per pixel: pixels in shadow, pixels not in shadow, and pixels near the shadow edge.

This work results in a texture containing zeroes for pixels in shadow, ones for pixels not in shadow, and all other values for pixels near a shadow edge. By looking at this texture for each screen-space position, wee can avoid expensive PCF for all areas except those near the edges of shadows that we want to be soft.

For tile classification, we extend this code to also classify light scattering and shadow fade since they're both calculated from depth alone, and we're already reading depth in these shaders to reconstruct world position for the shadow projections.

DEPTH RELATED CLASSIFICATION

Below is an example of classifying light scattering and shadow fade in the first-pass shadow mask shader.

```
float shadowType =
CalcShadowType(worldPos, depth);

float lightScattering = (depth >
scatteringStartDist) ? 1.0 : 0.0;
float shadowFade = (depth >
shadowFadeStartDist) ? 1.0 : 0.0;

output.color = float4(shadowType,
lightScattering, shadowFade,
0.0);
```

Recall that the shadow mask is generated in two passes. The first pass calculates the shadow type per pixel at one-half resolution (640x360) and the second pass conservatively expands the pixels marked as near shadow edge by down-sampling to one-quarter resolution. The example above also shows how we add a simple light scattering and shadow fade classification test to the first-pass shader.

The Split/Second G-buffer format. Note that each component has an entry for both 2X MSAA fragments.

The below shows how we extend the second expand pass to pack the classification results together into four bits so they can easily be combined with the per-pixel classification results later on.

```
// Read 4 texels from 1st pass
with sample offsets of 1 texel.

#define OFFSET_X (1.0 / 640.0)
#define OFFSET_Y (1.0 / 360.0)

float3 rgb = tex2D(tex, uv +
float2(-OFFSET_X, -
OFFSET_Y)).rgb;
rgb += tex2D(tex, uv +
float2(OFFSET_X, -OFFSET_Y)).rgb;
rgb += tex2D(tex, uv + float2(-
OFFSET_X, OFFSET_Y)).rgb;
rgb += tex2D(tex, uv +
float2(OFFSET_X, OFFSET_Y)).rgb;

// Pack classification bits
together.

#define RAW_SHADOW_SOLID (1 << 0)
#define RAW_SHADOW_SOFT (1 << 1)
#define RAW_SHADOW_FADE (1 << 2)
#define RAW_LIGHT_SCATTERING (1
<< 3)

float bits = 0.0;

if (rgb.r == 0.0)
    bits += RAW_SHADOW_SOLID /
    255.0;
else if (rgb.r < 4.0)
    bits += RAW_SHADOW_SOFT /
    255.0;
if (rgb.b != 0.0)
    bits += RAW_SHADOW_FADE /
    255.0;

if (rgb.g != 0.0)
    bits += RAW_LIGHT_SCATTERING
    / 255.0;

// Write results to red channel.

output.color = float4(bits, 0.0,
0.0, 0.0);
```

The above shows packing classification results together in the second-pass shadow mask shader. Note that this code could be simplified under shader model four or higher because they natively support integers and bitwise operators.

PIXEL CLASSIFICATION

It helps to explain how this pass works by describing the *Split/Second* G-buffer format (see the first example). Moore and Jefferies [2009] explain how we calculate a per-pixel MSAA edge bit by comparing the results of centroid sampling against linear sampling. We pack this into the high bit of our motion ID byte in the G-buffer. For classifying MSAA edges, we extract this MSAA edge bit from both MSAA fragments and also compare the normals of each of the fragments to catch situations in which there are no polygon edges (e.g. polygon intersections).

The motion ID is used for per-pixel motion blur in a later pass, and each object type has its own ID. For the sky, this ID is always zero, and we use this value to classify sky pixels.

Buffer	Red	Green	Blue	Alpha
Buffer 0	Albedo red	Albedo green	Albedo blue	Specular amount
Buffer 1	Normal x	Normal y	Normal z	Motion ID + MSAA edge
Buffer 2	Prelit red	Prelit green	Prelit blue	Specular power

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KEY CONTACTS

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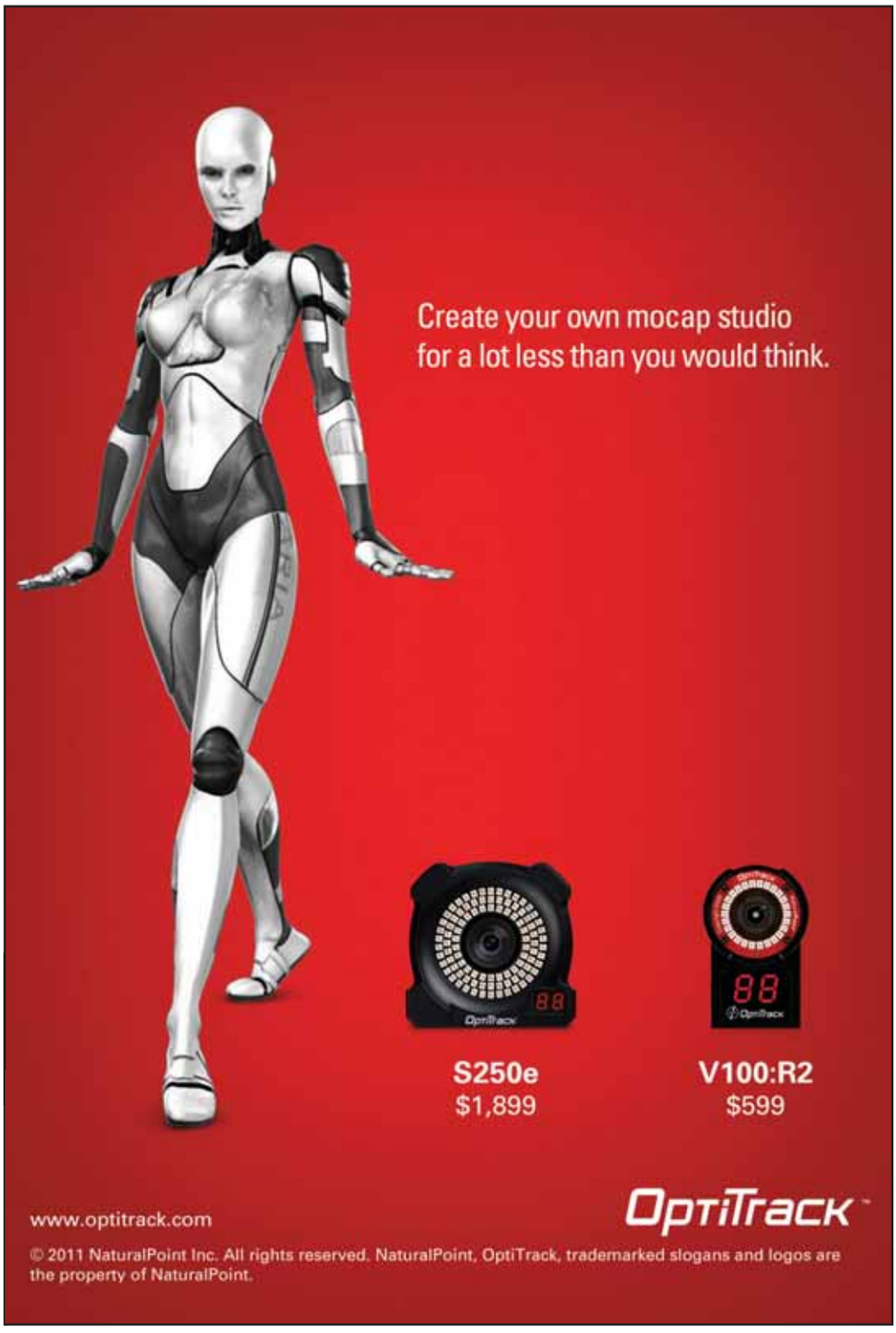

PERSONNEL

This month: Epic Games, Gaikai, Jagex and Ngmoco

Unreal Engine firm **Epic Games** has made strides into Europe by appointing a new territory boss.

Experienced industry exec Mike Gamble started working with Epic in February, taking on the role of European territory manager.

He previously was working at Crytek, as engine business licensing director, before joining Epic Games.

"We strongly believe in the UK development community," said Epic Games vice president Mark Rein.

"Our new European territory manager is a trusted industry vet dedicated to helping developers achieve success with our technology and we have more events planned for the UK later this year."

www.epicgames.com

Brendan Iribe, the founder and former president of UI specialists Scaleform, has joined cloud gaming service **Gaikai**.

The industry exec left Scaleform after Autodesk bought the group in a deal thought to be worth $36 million, and joins Gaikai as user-experience guru.

"Gaikai's streaming game technology runs on many different devices, giving us a very complex user interface challenge," said Gaikai CEO David Perry.

"Even more importantly, we need to create a compelling eco-system for developers to target. To tackle this, there's no better choice than hiring the number one user interface and middleware guru in the video game industry, that's Brendan," he added.

www.gaikai.com

UK-based studio **Jagex** has hired a new vice president for its in-development strategy title *8Realms*.

Phil White, who boasts over two decades of industry experience, has taken on the senior position at the upcoming game, currently operating in closed beta.

"I have been following the rise of Jagex and am delighted to get the opportunity to join the team," White said.

"Jagex's history, experience and the company's vision for the future meant that joining was a real no-brainer for me.

"The cross platform, play anywhere experience of *8Realms* took my breath away and I knew instantly this was something that I had to be a part of."

www.jagex.com

Ben Cousins, the former studio head at British outfit EA Easy, has joined mobile games group **Ngmoco**.

Cousins is now tasked with running and raising Ngmoco's new Stockholm-based studio. Much of the studio's work will be focused on building content for the social gaming platform Mobage.

Mobage is a mobile social games platform owned by Japan-based firm Dena, which acquired Ngmoco in October 2010.

Cousins is behind EA's successful foray into the free-to-play games market, and online shooter *Battlefield Heroes*.

"Ben Cousins has spent his whole career innovating," said Ngmoco boss Neil Young.

www.ngmoco.com

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STUDIO SPOTLIGHT

This month: Relentless Software

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F: +44 [0] 1273 727447

Founded in 2003 by David Amor and Andrew Eades, Brighton-based Relentless Software is today, famously, a major studio without crunch times, overtime or weekend working. In an industry that has become at certain level synonymous with frenzied periods of sleeping bags under desks, this ethos is certainly interesting.

That Relentless has such an impressive body of work to its name proves that there is method to being so sensible.

Both company founders had, before Relentless, worked together at Computer Artworks, another Brighton-based studio that had gone into receivership. Before shutting its doors that company had been working on a DJ sim game for SCEE. Armor and Eades convinced Sony that they could see the game finished with a new studio of their ow, and in September 2004 *DJ: Decks & FX* was released. Following some further international conversion work for Sony Computer Entertainment Europe on *EyeToy: Groove* and *SingStar Popworld*, Relentless was quickly becoming an established name in a rapidly burgeoning industry sector.

Recognising the potential of the still new studio, in 2004 SCEE approached Relentless with a host of licensed music that it wanted to turn into a game. Dropping the notion of a musical board game that had been given to them, Relentless took on the project and created *Buzz!: The Music Quiz* in time for the Christmas break in 2005. A massively successful franchise was born, and over the next seven years countless offshoots developed by Relentless and other studios were released, producing over eight million sales worldwide.

Having developed a significant industry presence and noted catalogue of work as it was heading into 2009, Relentless released its first self-published game. An episodic PSN and PC whodunit set in the leafy English village of Little Riddle, *Blue Toad Murder Files* marked a new creative high for the studio. It followed the game up with the announcement that it was becoming a multi-platform, digital release only studio.

In February of this year Relentless announced iOS title *Quiz Climber*, and in May a deal with PlayJam to create titles based on their TV IP was revealed. For a studio that has has defined itself as being at the forefront of the casual and digital still emerging distribution movements, these irons are unlikely to be the only ones in the fire. For Relentless, the future is already upon us.

www.relentless.co.uk

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TOOLS NEWS

This month: Trinigy, Kojima Productions, GameSalad and Bohemia Interactive

Trinigy has made the Vita version of its Vision Game Engine available with immediate effect.

The tech offers a modular architecture, and lets users work with the same tools and workflow they use to develop titles for all other Vision supported platforms and services, such as PS3, Xbox 360, Wii and Windows. It also includes a wealth of new tailored features for the Vita that harness its GPU cores.

"With the Vision Game Engine, developing a graphically rich, highly immersive game for the Vita is no different than building a game for the PlayStation 3, Xbox 360, or for the PC," said Dag Frommhold, managing director at Trinigy.

"Because of the Vision Game Engine's flexibility, developers can use the same tools environment, the same asset types, the same game code, and many of the same graphical effects."

www.trinigy.net

Adobe Systems has released a new application tool which allows developers to build applications in Flash and to port that content onto iOS devices.

The newly-updated Flash Builder and Flex framework now each support Apple's popular mobile devices, as well as rival mobile operating systems Android and Blackberry.

"As a result, developers can quickly build and distribute apps through the Android Market, through BlackBerry App World and through Apple App Store using only one tool chain, programming language and code base – a first for developers," an Adobe notice read.

The move is Adobe's latest coup in the ongoing and highly competitive race for ubiquity within the ever-expanding mobile games space.

Previously, Flash developers were only able to port their apps over to the Android Market.

www.adobe.com

Engine vendor **GameSalad** is launching a new tool suite that is says requires no knowledge of programming languages to use.

The suite allows games to be built primarily through a drag-and-drop user interface, with games exported into the HTML5 code

GameSalad says its new tool removes the barrier to entry for developing games for iPhone, Android devices, and building in the HTML5 standard ensures games will display on most browsers.

The company has not explained why it is not supporting Flash.

GameSalad CEO Steve Felter claimed HTML5 is "the next language of the web".

"We're giving people the ability to play and share GameSalad games within a web browser – dramatically expanding both the reach of our developers' games and their ability to create conversations and community around them," he added.

gamesalad.com

Serious gaming and simulation specialist **Bohemia Interactive** has secured a licensing agreement that will see it integrate xaitment's AI tools into its VBS2 platform for military tactical training and mission rehearsal.

"This partnership with xaitment confirms our intent to support the latest cutting-edge middleware to deliver more capability to our users. xaitment is a smart choice because it offers both AI editors and runtime libraries, which is a big differentiator in the market. Our company is now able to supply our clients around the world with state-of-the-art artificial intelligence technology directly integrated with our VBS2 platform." said Dr. Mark Dzulko, CTO of Bohemia Interactive.

"xaitment's powerful AI tools will help to further enhance and expand the experience our clients will have when using our simulation."

www.bistudio.com

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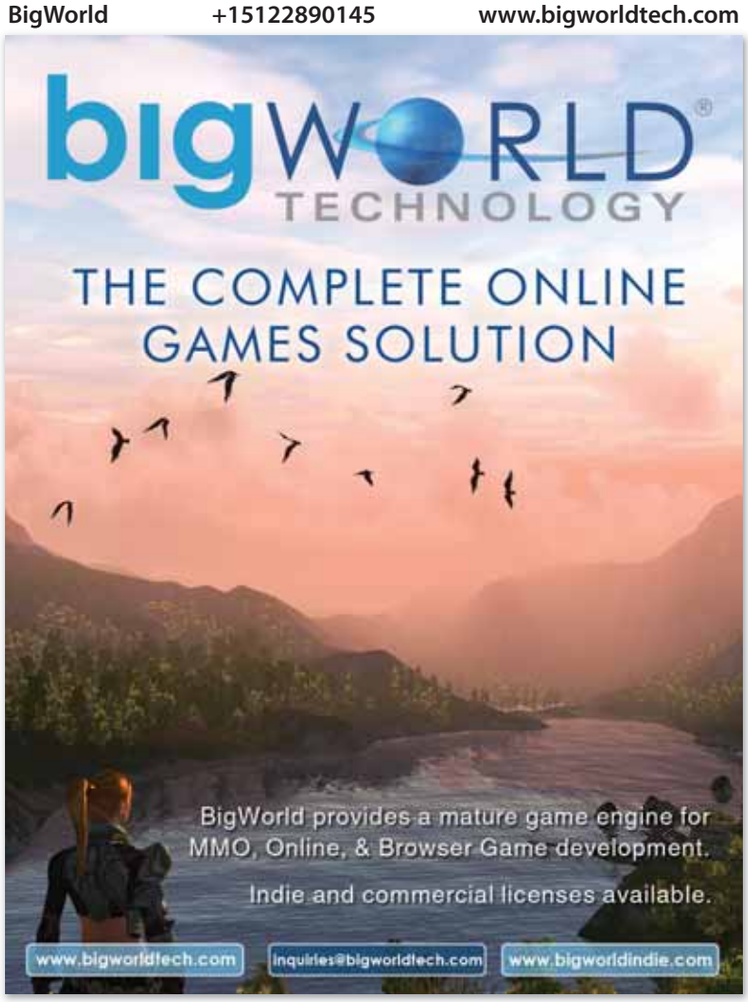

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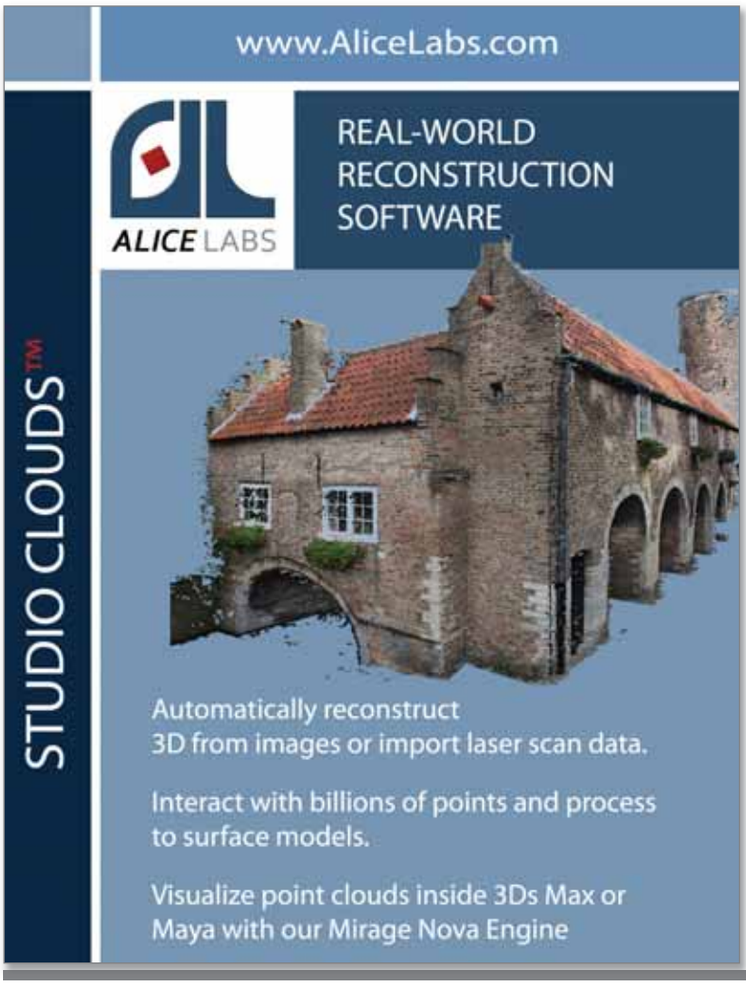

SERVICES NEWS

This month: Media Mill, Kombo

MEDIA MILL

York, UK-based audio outsourcer **Media Mill** has revealed its contribution to upcoming Bigbig Studio's PS Vita title *Little Deviants*.

The audio outsourcing firm, whose previous work includes such titles as *MotorStorm Apocalypse* and *Total War: Shogun 2*, has already completed a significant amount of the sound effects for Leamington Spa-based Bigbig.

"*Little Deviants* is one of those games that puts a smile on your face," said Media Mill's Jerry Ibbotson.

"We've tried to reflect that in the audio. The deviants themselves have different characters so we've made sure they all sound unique.

"It's great to be working with the Bigbig team again. We've produced audio for all of their releases so far but I think *Little Deviants* has the biggest profile. Seeing it on the global stage of E3 has been a real buzz."

www.mediamill.co.uk

KOMBO STUDIO

Rovio has announced the acquisition of Helsinki-based animation studio Kombo for future multimedia projects.

Financial terms of the buyout were not included in the announcement, but it is understood that Kombo will be used for various animation duties as Rovio attempts to expand its existing IPs beyond gaming.

The Espoo, Finland, mobile games giant previously signed a deal with 20th Century Fox to associate the *Angry Birds* brand with the recent animated family movie *Rio*.

"We have had a long and fruitful relationship with Kombo in the past," said Rovio CEO Mikael Hed.

"This acquisition is an important step in the execution of our media strategy. The attitude, creativity and quality of Kombo's work is simply fantastic, and we look forward to delighting our fans with more Kombo animations."

www.kombo.fi

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SERVICES SPOTLIGHT

This month: WildTangent

WildTangent®

Founded in Washington in 1998, WildTangent's games service lets customers access downloadable social games through its Game App. The service uses WildCoins digital currency and a proprietary ad platform called BrandBoost, which offers the ability to rent, purchase or play games for free, through advertisers.

The firm's WildClub subscription programme offers a triple-tiered membership system – two month, six month and 12 month.

The company is also involved in advertising work for third-party games developers and publishers through its BrandBoost platform, which has a user network of around 100 million monthly players to take advantage of.

WildTangent says its business model allows those using it to effectively monetise any gameplay element with ad-supported free play, micro-currency game rental and digital purchases.

WildTangent Media serves the in-game advertising processes of the Game App, working on an invitational basis that targets brands at particular players with the intention of maximising effect.

WildTangent's top staff boast a wide variety of games industry experience at firms as varied as Microsoft, Sony Online, Hasbro, Nintendo, Adobe and News Corp.

www.wildtangent.com

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TRAINING NEWS

This month: Lionhead Studios and Games Eden

Development powerhouse **Lionhead** has launched a work experience programme for local students.

The Guildford group said it wants to help the British development sector inspire young people to build games for a living.

Students from local schools can undertake work experience on-site and try out "all of the six main disciplines of making a game".

Each student will have a personal mentor to work with, Lionhead said.

"The video games industry offers a huge variety of career opportunities, but it is very intense and hectic," said Lionhead producer Jemma Harris.

"Staff here have been working closely with teachers at Woking Sixth Form College to come up with a program which will showcase the diversity, creativity and excitement of games development," she added.

Lionhead's partnership with local academic institutions is a key guiding principle of the Livingstone-Hope Review, a government-backed report on how games education can improve.

Of the twenty recommendations in the Skills Review, one asks studios to "use video games at school to draw greater numbers of young people into STEM and computer science".

www.lionhead.com

Industry professionals from studios like Jagex, Sony Computer Entertainment and Frontier Developments will be heading to the east of England early this month to give talks at a three-day games education event in the internationally famous university city of Cambridge.

The annual **Brains Eden conference**, set to run July 9th to 11th, will gather aspiring young game developers along with weathered industry pros to Anglia Ruskin University.

The first two-days of the show will be centred on a student game jam – where game prototypes are conceived and built under a punishing 48 hour period – while the final day will be a more laid back affair with speaker sessions and roundtable gatherings.

Key developers from Ninja Theory, Jagex, Frontier Developments and Sony Computer Entertainment Cambridge Studio will each share their insight and experience, along with representatives of the UK indie development scene.

Representitives of the UK development industry will also be debating the threats to and opportunities facing the national sector.

Games development students are also invited to submit their games art work to appear in an exhibition with professional studios' work.

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THE UNIVERSITY OF HULL

CODA

A sideways look at the games industry

THE INDUSTRY IN 140 CHARACTERS

A month in tweets by the industry elite

@therealcliffyb
Spill it, Nintendo. You all know you're going to buy whatever they show. It's fucking Nintendo, guys. #miyamotoFTW
(Cliff Bleszinski Epic Games)
Tuesday, June 7th

@TimOfLegend
Sorry, but nobody else can have a *TRENCHED* code until I get really, really good at it. This could take a while.
(Tim Schafer, Double Fine)
Tuesday, June 14th

@fourzerotwo
Showing *Modern Warfare 3* to Steven Spielberg at #E3 was definitely an awesome moment. A true fan of his work
(Robert Bowling, Infinity Ward)
Tuesday, June 7th

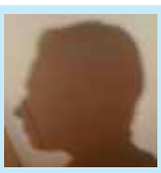
@MarkRein
I'd rather hear about *Angry Bird's* revenue than download numbers. I'm sure they're making tons of money, but I'd love to know how much.
(Mark Rein, Epic)
Wednesday, June 15th

@wiggo
If Twitter and Facebook have taught me one thing, it's how much I dislike self promotors and bullshit. Value every friend and every follow.
(Matthew Wiggins, Zynga UK)
Thursday, June 9th

@oliversnoddy
Has anyone hacked a Kinect to recognise cats? This would improve my life immeasurably, and probably double traffic to YouTube. #in
(Oliver Snoddy, Doremus)
Saturday, June 18th

@Kappische
Playboy Mansion was ok, but I really miss Sweden now.
(Daniel Kaplan, Mojang Specifications)
Friday, June 10th

@repi
@theCoDdaily dude, 99.9% of PS3 and Xbox 360 games are 720p. and a lot of them, including *MW2* is way lower than that
(Johan Andersson, DICE)
Sunday, June 19th



@martinhollis
$1,204,480,000,000 spent on wars isn't cool. You know what's cool? $2,000,000,000,000 spent on wars.
(Martin Hollis, Zoonami)
Friday, June 10th

@LulzSec
Clearly the UK police are so desperate to catch us that they've gone and arrested someone who is, at best, mildly associated with us. Lame.
(LulzSec's official feed)
Tuesday, June 21st

AN OPEN MIND

Bobby Kotick

Based on his E3 month

Telling CNBC what he thinks of *Modern Warfare 3's* closest rival: "So far I've only seen *Battlefield 3* shown on a PC, so I haven't seen it on a console which is where the bulk of our business is. If it's just a PC title, as it looks like today, that's a small audience to participate. We're always interested to see what our competitors are doing. I think we've had a lot of success with *Call of Duty* as a franchise."

Acting opposite Brad Pitt in the forthcoming sports movie Moneyball: "We're not in New York. Find players with the money that we do have."

Back with CNBC, this time on the merits of *Call of Duty Elite*: "Audiences will have to make the determination of whether that's valuable or not."

IT FIGURES: E3 2011

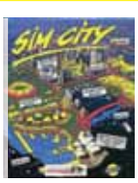
The recent E3 2011 saw **46,800** people walk through its doors; a figure up **2 per cent** on 2010's **45,600**, but significantly less than the **60,000** visitors at the 2006 show. Over **200** exhibitors set up shop in the two main expo halls, meaning a **third** less than the **300** with their wares on display in 2010. Attendees came to the 2011 expo from over **106** countries, in comparison to **90** in 2010. This year's E3 also contributed **$25m** to the city of Los Angeles. E3 2012 will take place at the Los Angeles Convention Center from June **5th** to **7th**.

REWIND

A year in video games: 1989

A look back at a time when things were a great deal simpler for those of us making video games

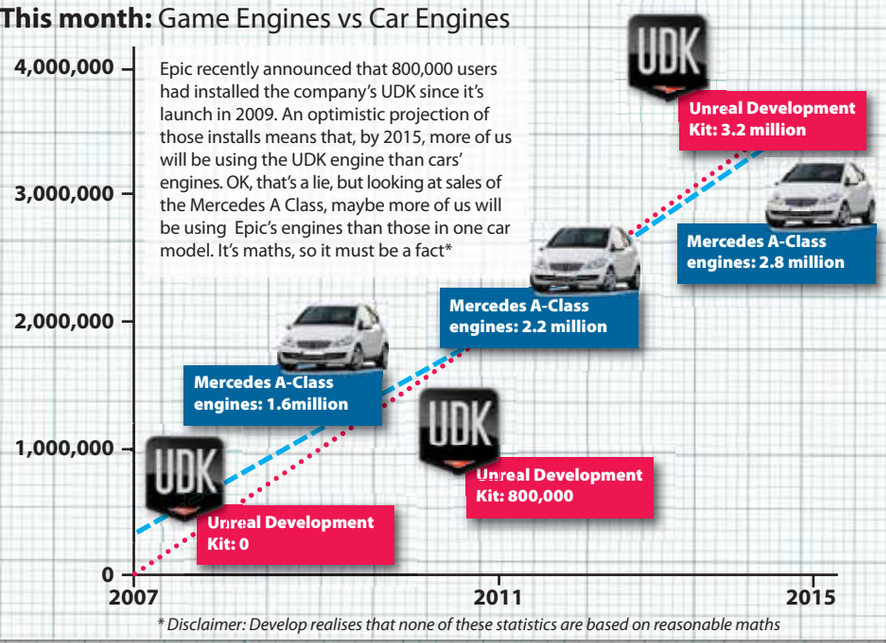
■ Maxis releases Will Wright's iconic god game *Sim City*



Wrong Numbers

Stats can be misleading. Forward-project the trends from June 2011 and the results show a misguided vision of the future

This month: Game Engines vs Car Engines



** Disclaimer: Develop realises that none of these statistics are based on reasonable maths*

DEVIPEDIA

Dissecting the hyperbole of games development

Mingleplayer

ming.ul play.er – adjective

What 'they' think it means:
An innovative new concept, mingleplayer 'blurs the lines between offline and online modes', and is much more than just multiplayer with bots. Really, it is. It allows the player an 'integration of experiences' across singleplayer, co-op, and multiplayer, and redefines our understanding of how we make and play games.

What it really means:
Possibly nothing. It seems it's an awkward attempt at defining a none-too-clear new way of repackaging existing single and multiplayer content.

■ Atari's doomed Lynx hits retail…

■ …the same year as the Gameboy

■ THQ founded as Trinity Acquisition Corporation

■ Robert Donner writes *Minesweeper*

develop FORWARD PLANNER

August 2011

Visual Arts/CG/Game Graphics
New techniques and tech for cutting edge in-game visuals, from 2D on handheld to stereoscopic 3D on console

Events:
GDC Europe – August 15th to August 17th
Gamescom – August 17th to August 21st

Regional Focus: Spain
A closer look at the Spanish games development community

September 2011

Artificial Intelligence
The new tricks and tools developers are using to make characters think

MMOs/Online Technology
A round-up of all the new trends and technologies in connected games

Regional Focus: Northern England East & West
What's new in key hubs including Liverpool, Leeds, Sheffield and Newcastle

October 2011

Monetisation Services & Game Payments
An overview of an increasingly complicated sector

Events:
GDC Online – October 10th to October 13th
London Games Festival - Dates TBC

Regional Focus: Scotland
After a year of change for Scotland, we take a look at the state of play in this valued region

November 2011

Events:
Montreal International Games Summit - Dates TBC

Regional Focus: Canada
Our yearly look at the games dev firms operating in BC, Quebec and everywhere in between

Dec 2011/Jan 2012

30 Under 30
Develop shines its talent spotlight on the young achievers shaping the industry's future

Mocap
A detailed look at motion capture, and new trends and technology in the sector

Regional Focus: France
Movers and shakers in this diverse games development region

FEBRUARY 2012

Recruitment Special
Our annual look at the jobs market includes: Advice for CVs, portfolios and interviews; per-discipline guidance on getting a promotion; the education sector; our salary survey; and much, much more

Salary Survey
Dissecting the data to see how industry salaries are changing

Regional Focus: Cambridge
A look at current developments and new stories from the historic University town

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We Know Your World

THE FAQ PAGE: JO TWIST

Develop grills respected figures from the global development sector

Jo Twist has a forward thinking optician to thank for her love of video games

Who are you and what do you do?
I am Jo Twist, commissioning editor for education at Channel 4. We commission soft learning and life skills for 14-to-19-year-olds. We try to do things that will help them survive the next five years. We reach them in their fun time outside school so a lot of what we do happens to be games, but not all of it.

It's just that games are massive magnets for them and learning through play is something we all do. We work 100 per cent with independent developers and production companies who do anything from games that help teens think and talk about death, to games that let you run a sweatshop, and even games that make you money savvy through racing squirrels.

What are you working on right now?
Of our 16 projects for 2011, seven of them are games and a couple more are game-like or have mini games as part of them. I'm really looking forward to our games taking on attitudes to fast fashion and entrepreneurship. *Sweatshop* by Littleloud is a tower defence style game which puts you in command of a sweatshop, making moral decisions about how much you use labour to fulfil fast fashion demands. Another is something Preloaded has just started working on, which is a shoe crafting game to help young people to understand social success is just as valid as financial success in business. It's underpinned by a social enterprise triple bottom line model. Another I love playing at the moment is *Yes Chef* – working title – from Player Three. It's a subversive 2D platform puzzler to help boys understand what effects food they eat have. I am also trying to get a cat in every game. It's just a thing.

What was the first video game or product that you ever worked on in the industry?
When I worked for Newsround online I co-devised a couple of games. One, *Poacher Patrol*, is still live and kicking. We had a lot of fun playing with crocodile spit. But really, as a technology journalist, I wrote about games more. I did a few women in games features which is how I met Aleks Krotoski and Alice Taylor. Where I could, I wrote pieces which played on what I explored in my PhD: online communities as social contexts for identity play. I also wrote about games like *Myst* being used in the classroom for learning. I loved being a journalist and interviewed so many heroes such as Will Wright. That was an awesome day.

> ***"I am immensely enjoying what apps are doing to games and I binge games on Facebook purely for research purposes."***
>
> Jo Twist, Channel 4

What was the first video game you ever played, and did you enjoy it?
It was *Pong*. Yes, I am that old. I had a bad squint aged five and on so my very forward thinking optician recommended to my parents that instead of wearing a 'bully-magnet' eye patch, they should buy me an Optim Sport – which is still in my cabinet – and play *Pong* with my good eye covered up. It worked. Kind of. I migrated onto a series of Game & Watches. I was fascinated by all things gadgetry because I grew up in Hong Kong.

What is your favourite game ever, and for what reason?
A close competition between *SSX Tricky* and *LEGO Indiana Jones/Star Wars* because I don't really die. I have very little patience and a short attention span, but I love what LEGO does to some of my favourite childhood films. Generally, I love social games and what they do to people's faces in a room when they are sharing that play experience.

What do you enjoy about the video games industry today?
I am immensely enjoying what apps are doing to games and I binge games on Facebook purely for research purposes (currently it's *Ravenwood Fair*). But I also love the aesthetic and the emotion which is driving games like *Limbo* and *Heavy Rain*: beautiful stories and works of art.

What disappoints you about the video games industry today?
That game design expertise has not influenced what telly does. Designing for playful experiences, especially when we are thinking about designing systems that help people gain insight or skill, is such a fine art.

It's a skill that needs to spread beyond one industry. Somethin' Else and Preloaded did it really excellently with one of our projects, *Superme*.

What hobbies, collections or interests do you have that are completely unrelated to video games?
Cats. I have the best playlist of cat videos on the internet. I have never owned one, but I make up for that in getting a cat into every commission. I am obsessed with all kinds of media distractions and need to be playing or listening to something at all times. Podcasts, *Drop 7*, or *Naughty Bear* usually. I also have a fantastic Smurf collection.

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